

# Soybean Digest



*Official Publication*

OF

THE AMERICAN SOYBEAN ASSOCIATION

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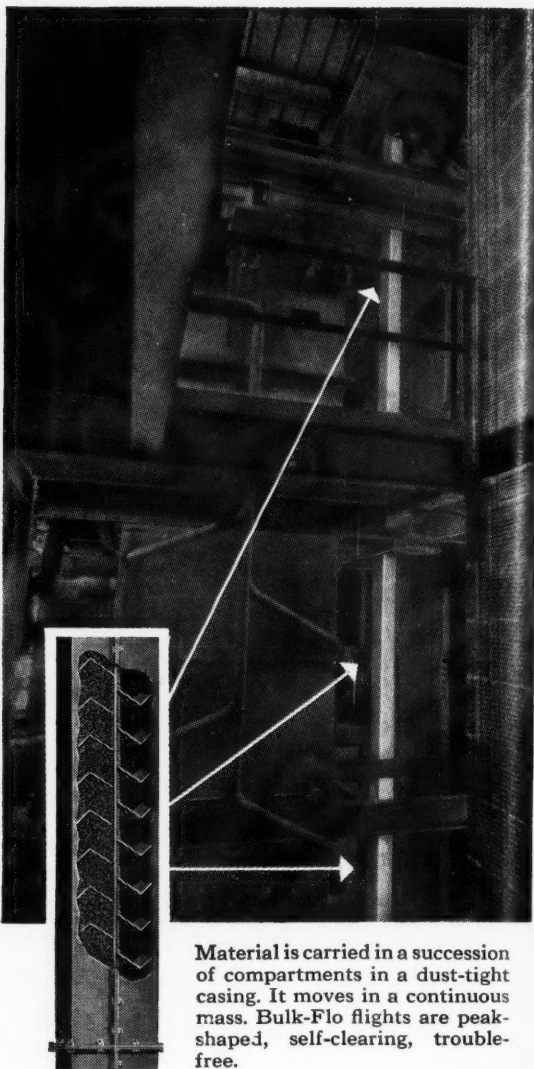


NOVEMBER • 1944

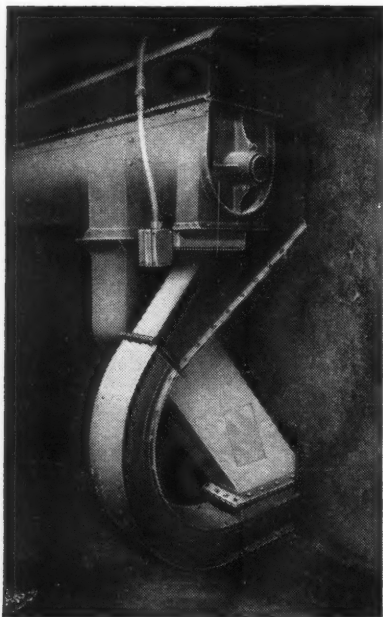


SOY BEAN FLAKES. Horizontal and vertical runs of four Bulk-Flo units handling raw and spent soy bean flakes shown above and to the right. Horizontal runs are asbestos covered to retain heat in the product. Dust tight, safe, clean, with high capacity in limited space.

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# THE Soybean Digest

GEO. M. STRAYER, Editor

KENT PELLETT, Managing Editor

Publishers' Representatives: Ewing-Hutchinson Co., Chicago

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NOVEMBER ☆ 1944

No. 1

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### Disservice to "Miracle Bean"

Now we are told that anyone can make a killing in the promotion of soybean food products. A circular reaching the editorial desk predicts "unlimited" success to anyone who will engage in such a venture. Little capital, "just two or three dollars," and no previous experience are needed for spectacular success!

We are told that foods are to sell at 10 times their cost with tens of thousands of customers waiting. For a small price a booklet is offered which gives a full course in basic soybean knowledge.

The claim that success with soybeans is so surefire is bound to surprise old hands at the game whose ventures have cost them much sweat and tears. They know that the soybean industry did not happen over night, without capital and without experience. The soybean was introduced into the United States as long ago as 1804. Since then, many long years of consistent effort, patient research and much trial and error on the part of thousands of people have given growers, processors and research men the necessary know-how to make a place for the soybean in the national economy.

All businesses under the sun are plagued at times by this type of promotion, but the "miracle bean," due to the widespread publicity it has been receiving, is peculiarly vulnerable right now.

### Requiescat in Pace

One of the accomplishments to which *The Soybean Digest* points with pride is the part which our publication played in curbing the promotion and sale of the McClave soybean.

At a time when the sale of advertising space in our new and struggling publication was a major problem we were approached by the promoters of this so-called variety with a very lucrative offer of advertising space purchases. It was our pleasure to turn down this offer, as well as all others proposed, in the promotion of this agronomic misfit.

Word now reaches us of the conviction of the promoters of the McClave for misrepresentation and false labeling. It is satisfying to look back on that battle. To be able to say that we helped win for the good of the industry and the soybean growers is more than sufficient pay.

There is a great deal of satisfaction in knowing that federal action has been completed and that we can add to the editorial accomplishments of *The Soybean Digest*, "McClave soybeans—legally deceased."

### We've Done It Again

Once more a bumper soybean crop is in the bins!

*The Soybean Digest* was sticking its neck way out in June when in announcing that the U. S. Department of Agriculture's soybean acreage goals had been met, it predicted that there was a possibility that the 1944 crop might equal or exceed those of the past 2 years. The planting season had been highly unfavorable. Spring was late, there were torrential rains and floods in many areas, and quite an acreage of soybeans was still unplanted. And by that time drought in Illinois, Indiana, Ohio and Arkansas was already beginning to appear!

We stated: "Perhaps our luck will not hold long enough to bring on a bumper soybean crop the third year in succession. Even with our increased acreage we may not top the 200 million bushel record of 1943. But we are going to try, and the decision is in the lap of the gods." Perhaps foolish optimism! But the gods were favorable. Our luck *did* hold. The latter part of the growing season was as favorable as the early part had been unfavorable. Late frosts enabled late planted soybeans to mature and dry weather speeded harvesting of high quality beans. This year's crop has broken all records, with the sole exception of that of 1943.

As J. E. Johnson says, "Our yields have been 'providential' the past 2 or 3 years."

Representatives of the American Soybean Association and the National Soybean Processors Association conferred last month with the budget bureau at Washington in an effort to get an increased federal appropriation for soybean disease work. As pointed out by David G. Wing, who represented A. S. A., when the total spent on soybean disease work this year was only \$8,000 as compared with \$35,000 spent on oats diseases, an increased soybean appropriation is clearly in order. Prospects for obtaining it appear good at the present time.

### The American Soybean Association

OFFICERS: President, Howard L. Roach, Plainfield, Iowa; Vice President, Walter McLaughlin, Decatur, Ill.; Secretary, J. M. Strayer, Hudson, Iowa; Treasurer, J. B. Edmondson, Clayton, Ind.

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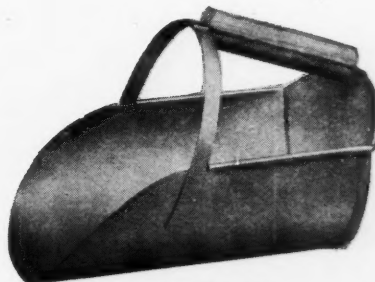
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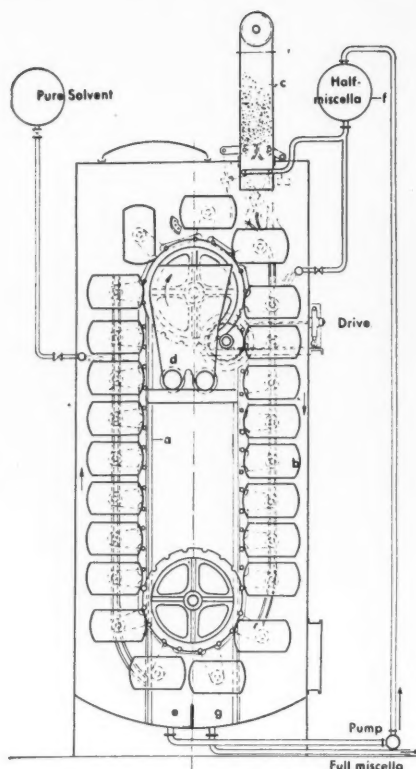


FIGURE 3 (top).—The Bollmann or "paternoster" system of solvent extraction. (Courtesy of Albert H. Bruecke, Hansa Muhle, A. G.)

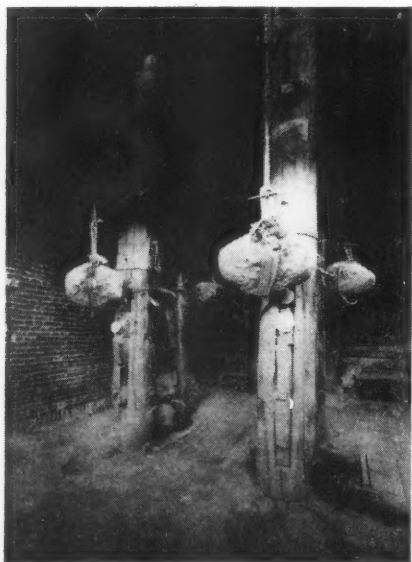


FIGURE 2 (above).—Old, wedge, Chinese oil presses used in remote villages of Manchuria. (Courtesy of W. J. Morse.)

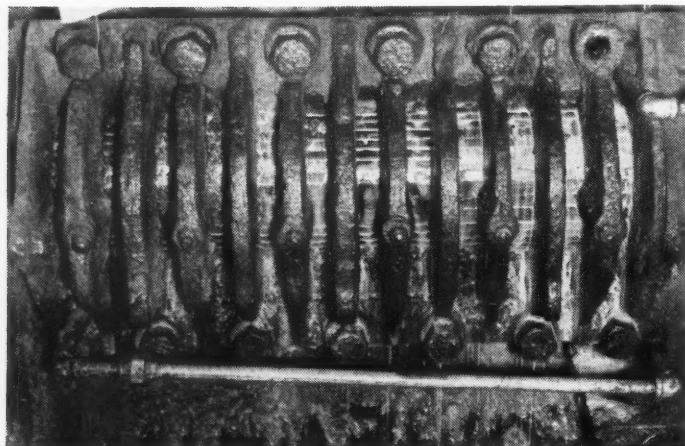


FIGURE 4.—  
Closeup of the  
cage of a screw  
press in action.  
Oil may be seen  
oozing from be-  
tween the bars.  
—Soybean  
Digest Photo



FIGURE 1.—Crushing soybeans, preparatory to steaming and pressing for oil, in a primitive type of mill. On the left is a vat over which the crushed beans are steamed before they are placed in the oil press. (Courtesy of W. J. Morse.)

# Processing Soybeans

By W. H. GOSS

Engineering and Development Division Northern  
Regional Research Laboratory

SOYBEAN processing, as it will be discussed, will be limited solely to the conversion of soybeans into oil and oil meal by pressing and by solvent extraction. This is an operation that has been conducted, by various methods, for many centuries and which at present is an important industry in many countries throughout the world.

Before discussing the American soybean industry, I should like to mention briefly some of the outstanding features of this industry as it exists in other countries. In Manchuria, where soybean production is the principal agricultural industry, most of the processing is accomplished in hydraulic presses which vary in type from extremely primitive to quite modern designs. In some of the more isolated mills, the beans are

crushed by the ox-powered machine shown in Figure 1.

They are then placed in coarse sacks which are laid on wood grates above pots of boiling water; and, after being steamed for about 15 minutes, the pulverized beans are dumped into circular frames and squeezed in a press that is operated by the driving of wooden wedges, by hand. Two of such presses are shown in Figure 2.

In Manchuria, Dairen is the principal soybean processing center, and the mills are more modern. Crushed and cooked beans are put into circular trays or mats which are stacked in the presses, and hand-operated screws are used for applying the pressure to squeeze out the oil. Most of the mills in Dairen, however, have abandoned the hand-powered presses in favor of hydraulic machines, and in some plants the round-cake method has given way to the American and English types of hydraulic presses which produce rectangular cakes; the machines are similar to those used in our cottonseed and linseed industries. Solvent extraction is employed on only a limited scale in Manchuria.

In Europe, an entirely different situation prevails. Between the last war and the present one, huge solvent extraction plants were built for processing imported oilseeds, of which soybeans from Manchuria were one of the most important. In England, the oilseed industry is concentrated at Hull. Hamburg played a similar role in Germany. Figure 7 is a photograph taken inside one of the huge mills in Hamburg, in which there were three solvent extractors, each processing 400 tons of soybeans per day.



• Dr. Goss is in charge of the process development section of the engineering and development division of the Northern Regional Laboratory. The paper was presented at the Silver Jubilee meeting of the American Soybean Association.

Similar mills were built throughout northern Europe. Another typical one is operated by the Consumers Cooperative Union at Karlshamn, Sweden.

Most of the large European soybean mills were built in seaports, for Europe has consistently imported a large share of its oil and protein requirements in the form of oilseeds, and it was obviously desirable to concentrate the processing facilities at the ports of entry. This is in marked contrast with the American soybean processing industry which crushes the crop almost entirely in the regions where grown. The fact that much of our soybean oil meal is consumed in and near our principal regions of soybean production has favored the development of many mills of small and medium size; therefore it is not necessary to ship the beans and the meal over great distances to and from the processing centers.

The European and American soybean industries differ in still another respect. The United States is normally rather amply supplied with edible fats and oils, but such is not the case in Europe. In Germany and other oil-importing countries it has been necessary to recover the maximum amount of oil; and, since pressing methods are not

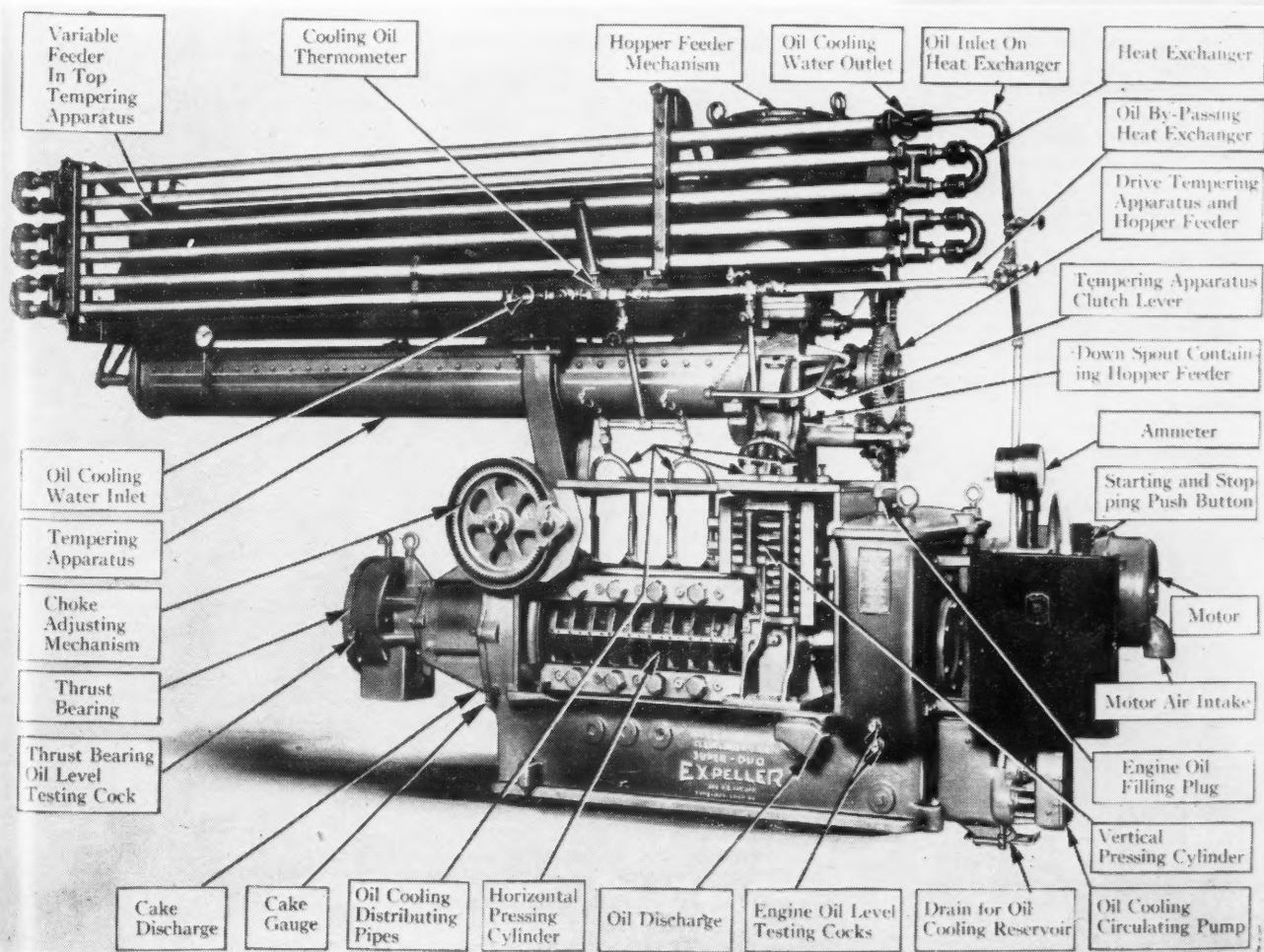
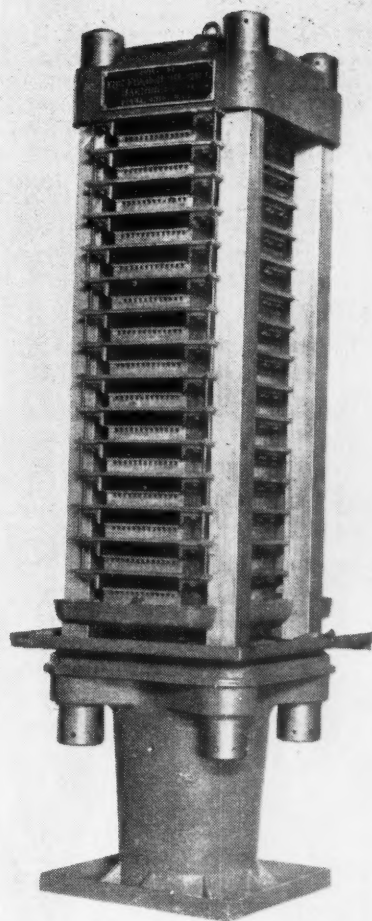
very efficient in this respect, the European soybean processing industry has adopted solvent extraction as the preferred method. This has been especially true in Germany, where most of the present day technology involved in the solvent extraction of oilseeds originated. The German installations of continuous extractors antedated ours by many years. In fact, most of the original soybean extractors built in the United States were imported from Germany. The same is true of other countries, including England, Belgium, Holland, France and Argentina.

#### AMERICAN INDUSTRY

The American soybean industry uses all three of the methods by which soybeans are processed, namely, continuous pressing, solvent extraction, and hydraulic pressing; but pressing methods have predominated, both because solvent extraction was not considered amenable to small-scale operation

FIGURE 5 (below).—Anderson Super-Duo expeller. (Courtesy of V. D. Anderson Co.)

FIGURE 6 (right).—A hydraulic press. (Courtesy of French Oil Machinery Co.)



and because the incentive for complete oil recovery has been comparatively slight. Being a new industry, it adopted the more efficient expeller and screw press instead of the hydraulic presses used in the cottonseed and linseed industries. The oil content of the resulting cake or meal varies with the type of process used, being 5 to 6 percent for hydraulic pressing, 4 to 5 percent for expellers and screw presses, and less than one percent for solvent extraction.

#### SCREW PRESSES

Expellers and screw presses, as most of us are aware, are large perforated cylinders through which a rotating screw conveyor continuously forces the soybeans under terrific pressure, the oil being squeezed out through the perforations in the cylinder. New models of these machines appear at frequent intervals, and keen competition between their manufacturers has consistently improved each model over its predecessor, both in efficiency and in capacity. Figure 5 is a picture of one of the numerous types of expellers used throughout the soybean industry.

The beans are ground and dried; after which they are cooked, or tempered, in steam-heated conveyor troughs that surmount the pressing cylinder, or cage. The cooked meal is then forced through the perforated cylinder in which the oil separation takes place. Figure 4 is a close-up view of one of these expeller cages, showing the soybean oil flowing out between the closely spaced steel bars which comprise the pressing cylinder.

There are at least a half-dozen distinctly different methods used in this country for extracting oil from soybeans with volatile solvents. They consist of screw conveyors, bucket elevators, or similar devices for conveying the flaked oilseeds countercurrently through a stream of the solvent. The most commonly used system was imported from Germany and has subsequently been adopted by no less than three American manufacturers. It is known as the "paternoster" or bucket type of extractor, a drawing of which is shown in Figure 3. It is essentially a bucket elevator. The buckets have perforated bottoms through which the solvent percolates.

The spent meal, after being extracted, passes to a series of driers where all the

TABLE 1.—Capacity of the soybean processing industry, by areas, excluding temporary and part-time mills, compared with indicated production of soybeans in 1944.  
Million bushels per year of 346 operating days.

Area	Number of mills	Installed capacity	Capacity under construction	Total capacity	Indicated production in 1944*
Illinois	34	59.0	9.4	68.4	67.2
Iowa	26	21.4	11.6	33.0	35.3
Ohio	16	16.4	1.9	18.3	22.2
Indiana	14	14.4	2.3	16.7	23.6
Missouri	7	4.5	1.9	6.4	10.3
Others	46	21.5	7.6	29.1	20.0
Total	153	137.2	34.7	171.9	178.6

\*Crop Reporting Board, U. S. Department of Agriculture. Estimate August 1, 1944.

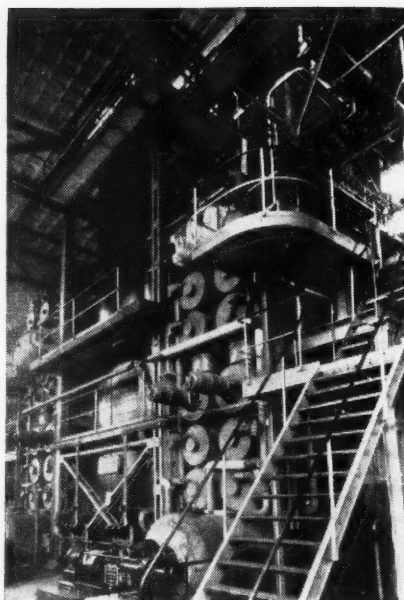


FIGURE 7.—An installation of the Bollmann system of solvent extraction. (Courtesy of Albert Bruecke, Hansa Muhle, A. G.)

entrained solvent is driven off and the protein is toasted to produce a palatable and nutritious food. The dissolved oil runs to specially designed evaporators in which it is likewise freed from solvent. The methods for recovering the solvent vary greatly, but all the processes are designed for removing the solvent from the oil at the lowest practicable temperatures.

Hydraulic pressing is nearly obsolete in the soybean industry and would hardly deserve consideration but for the fact that a considerable number of hydraulic cottonseed and linseed mills have crushed soybeans during part of the past two years to alleviate a war-time shortage of soybean processing facilities. It is a batch operation that requires much hand labor.

A typical hydraulic press is shown in Figure 6. The soybeans are rolled into thin flakes, cooked, and molded into rectangular cakes, which are then wrapped in special mats and inserted into the press, one in each of the 15 compartments shown. The oil is then expelled by compressing the series of cakes with a hydraulic ram forced upward from inside the lower pedestal of the press.

The American soybean processing industry was born shortly after the last war and has been growing ever since. In fact, it is growing now much faster than at any time in its history. In considering the capacities of the various soybean mills and of the industry as a whole, it is preferable to disregard a large number of plants which are crushing soybeans temporarily or only a small part of the time, that is, those mills which will discontinue soybean processing after the war. It is also advisable to distinguish between the installations now operating and those that are still under construction.

A summary by areas of the data available on this subject at the Northern Regional Research Laboratory appears in Table 1, which indicates that the industry's total capacity, upon completion of current con-

struction, will be 172 million bushels per year of 346 operating days.

The data presented in the table are based upon a year of 346 operating days, which is generally considered the utmost that can be expected of a plant if soybeans are available throughout the year. In normal times, a 330-day year might be more typical, and on this basis the annual capacity of the industry at present is 164 million bushels. About 75 percent of the soybean crop is ordinarily processed, so it will require an annual production of approximately 220 million bushels to keep all the mills operating on a reasonably complete schedule. However, in the few years immediately preceding the war, the installed processing facilities were estimated to have been used to only 75 to 80 percent of their capacity, based on a maximum operation of 330 days per year. Using the mean of these two figures, and assuming that 75 percent of the crop will be crushed, one can readily deduce that the annual production should be about 170 million bushels in order that the mills now installed may operate in a manner comparable to that followed immediately preceding the war.

Attention has already been called to the fact that the American soybean processing industry is less centralized than the corresponding European industries. On the other hand, there is a greater concentration of processing capacity in the plants of several relatively large-scale operators in this country than will be found, for example, in the American cottonseed industry. In Table 2, the estimated capacities of the largest processors are listed, in terms of percentage of the capacity of the entire industry.

#### PROCESSING RESEARCH

Inquiries received at this Laboratory indicate that many people in the soybean industry believe that the Laboratory is working on the development of improved solvent-extraction equipment. This is not true, however, for every effort is made in the Regional Research Laboratories to avoid duplicating research being conducted elsewhere. The design of solvent extraction apparatus has been studied most intensively by

TABLE 2.—Capacities (estimated) of American soybean processors.

Processor	Percent of capacity of entire industry
A .....	11.8
B .....	10.7
C .....	9.5
D .....	6.8
E .....	5.5
F .....	5.5
G .....	3.8
H .....	3.2
Approximately 100 other operators	44.0
	100.0

TABLE 3.—Relative extent (estimated) to which various processing equipment is used in the soybean processing industry.

Equipment	Percent of installed capacity of entire industry
Anderson expellers .....	44.0
French screw presses .....	23.9
Unclassified expellers and screw presses .....	2.1
Solvent extractors .....	28.6
Hydraulic presses .....	1.4
	100.0



many equipment manufacturers, processors, and agricultural experiment stations, and it has therefore seemed inadvisable for the Laboratory at Peoria also to pursue this line of research.

The Northern Laboratory has investigated numerous ways of carrying out the process of recovering oil from soybeans, confining their efforts largely to the development of methods whereby special properties can be imparted to the resulting oil and meal so that they are more suitable for specific industrial uses. Much of this work is still in progress, but by the time this Association meets next year it is hoped that a more complete report can be furnished on the results

achieved. Some of this work has been described to you in the past. For example, last year you were informed briefly of the Laboratory's part in coping with the excessive amounts of field damage suffered by the 1942 crop and of studies made to ascertain the extent to which mills should be encouraged to install the so-called "expeller speed-up."

Last season, for the first time, processors purchased their soybeans on an oil-content basis. Such a procedure, being new to the industry, severely taxed the facilities available for determining the oil content by chemical analysis. Obviously, trading on an oil-content basis cannot be conducted satis-

factorily unless everyone involved can agree on what is the correct percentage of oil in each consignment. In order to perform the tremendous amount of analytical work required by such a program, it was necessary to use the facilities of nearly all the commercial laboratories, including those of the processors themselves; and it was immediately found that, with few exceptions, no two laboratories could agree upon the analysis of duplicate samples. The discrepancies amounted to several percent in some cases, and the aggregate sum of money involved in the collective uncertainties of true oil content amounted to many millions of dollars.

Faced with a possible break-down of the 1943 soybean marketing program if the various laboratories could not obtain concordant results, the Commodity Credit Corporation called on the Northern Regional Research Laboratory for assistance. Mr. J. H. Lloyd, Assistant Regional Director of the Commodity Credit Corporation, and Dr. R. T. Milner, Chief of the Analytical and Physical Chemical Division of the Laboratory, and former director of the U. S. Regional Soybean Industrial Products Laboratory, put into operation a collaborative system of checking the results of each laboratory participating in Commodity's program, and detailed instructions were furnished to assist analysts in getting better results. Although the first year of trading on the new basis resulted in many minor hardships, it seems generally agreed that it is a step in the right direction. It is also probably true that, without the assistance of the Northern Laboratory during the past year of war-time shortages, the trial of oil-content trading would have proved a failure.

The staff of the Northern Regional Research Laboratory is diligently pursuing many other lines of research on soybeans that are totally unrelated to the technology of processing. The Laboratory at Peoria desires not only to continue but to expand the cordial and profitable relations it has enjoyed in the past with all members of the soybean industry—growers, processors, refiners, and many others. All members of the research staff sincerely feel that, in the future, when the exigencies of war have passed, they will be able to render even more service to the industry.



SMITH

STRAYER

HURRELBRINK

## PIONEERS

Above are shown three pioneers, two of them still living, who blazed early trails for soybeans in Illinois and Iowa.

Frank Hurrelbrink of Taylorville, Christian County, Ill., saw a few varieties of soybeans growing on the Illinois University farm in the fall of 1903, and asked for a small amount of seed of each of several varieties. He grew these the following year and has been producing soybeans annually since that date.

Mr. Hurrelbrink soon had a definite idea as to what he wanted in a good variety—one that would stand well, resist shattering and one that could be left in the cornfield until the livestock could harvest the seed from the standing plants. So he developed the Hurrelbrink soybean which is still being grown and is still in demand.

John T. Smith, who lives in Champaign County, Ill., grew his first soybeans in 1908, when he procured a bushel of seed each of two varieties from Dr. W. J. Morse of the U. S. D. A. The following year he obtained seed from Charles Meharry.

In 1921, John T., with Frank Barton and J. E. Johnson, past president of the American Soybean Association, took the lead in inducing farmers in that part of Illinois to standardize on a new strain of so-called black hilum Manchu. He took 59 of the original 80 bushels of this seed and increased it on his farm.

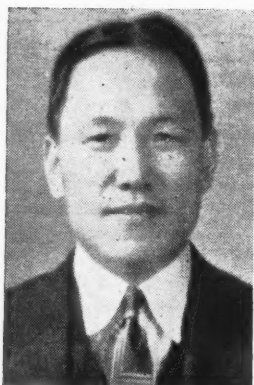
In 1924, he held a soybean harvesting demonstration on his farm, with everything from the old reap hook, through the cradle, flail, mower, self rake, binder and finally the modern combine being shown. Since that day John T. has harvested his soybeans with a combine, and his farm served as a laboratory for at least one farm machinery manufacturer for several years.

Mr. Smith and Mr. Hurrelbrink are still active members of the American Soybean Association.

B. S. Strayer grew his first soybeans on his farm at Hudson, Iowa, in 1912, and probably was the first to grow them in the Midwest west of the Mississippi. He obtained seed of the Columbia variety, a large yellow bean from South Carolina. This he planted for three years and secured not a single mature soybean during that time. He was about to give it up as a bad job when he secured some seed of Blackeye soybeans. These, as a final trial, he planted with popcorn—and got a bumper crop of corn and beans.

Soybeans have been grown every year since at the Strayer Seed Farms, for the past 20 years commercially. Bert took his son, George, now editor of *The Soybean Digest*, into partnership with him, and later his other son, Gordon. So the Strayers have been Iowa pioneers and leaders in growing this crop from the beginning. Since 1935 U. S. Department of Agriculture soybean test plots have been located on the Strayer farm. Mr. Strayer died in 1941.





# Miracle Bean for STARVING MILLIONS

By HSIANG KAI LEE

• Why should not the United States devote 20 million acres instead of 10 to soybeans? Such an acreage might shorten the war a year. The question is raised by the author who was born and raised on soybeans in Honan, China, and is now an engineer for the Ford Motor Co.

**T**ODAY the soybean is the pride of the Orient, and food for half of the world's population. It is a great blessing that the people in these lands of scarcity and low standards of living can have the soybean as a substitute for meat, milk and eggs. As often said "the soybean is the poor man's meat." Thus, down the ages, the teeming Orientals, in their simple soybean diet, have had the necessary protein and amino acid as fuel energy for living, working and even fighting against aggression. In China, for centuries some laborers have worked all day on a handful of soybeans, yet these people are noted for their endurance and remarkable stamina. The secret of their amazing energy can be traced directly to the exceptionally nutritive value of the soybeans, and is not due to a diet of rice as commonly believed in the United States.

Because of the importance of the soybean as human food, its history is marked with bloody clashes. The invasion of China in 1931 by greedy Japs was caused primarily by the lush prize of the immense soybean crops of China, which in the past decade have averaged more than 250 million bushels a year. China's rich soybean land was seized with two objectives: The first one is the insidious scheme to subjugate China's 450 million people through starvation, the second one is to utilize the immense crops of soybeans to build up Japan's industrial strength for world conquest.

Today, Free China is facing the most severe shortage of food in the world. A recent report from the Far East says "more than 20 million Chinese are facing starvation." This pathetic situation is seriously hindering China's war effort.

The Nazis, who understand the food value of soybeans, embarked upon this war after having gathered a tremendous reserve store of soybeans, then bluntly announced "there will be no food shortage this time."

## CONQUERED EUROPE

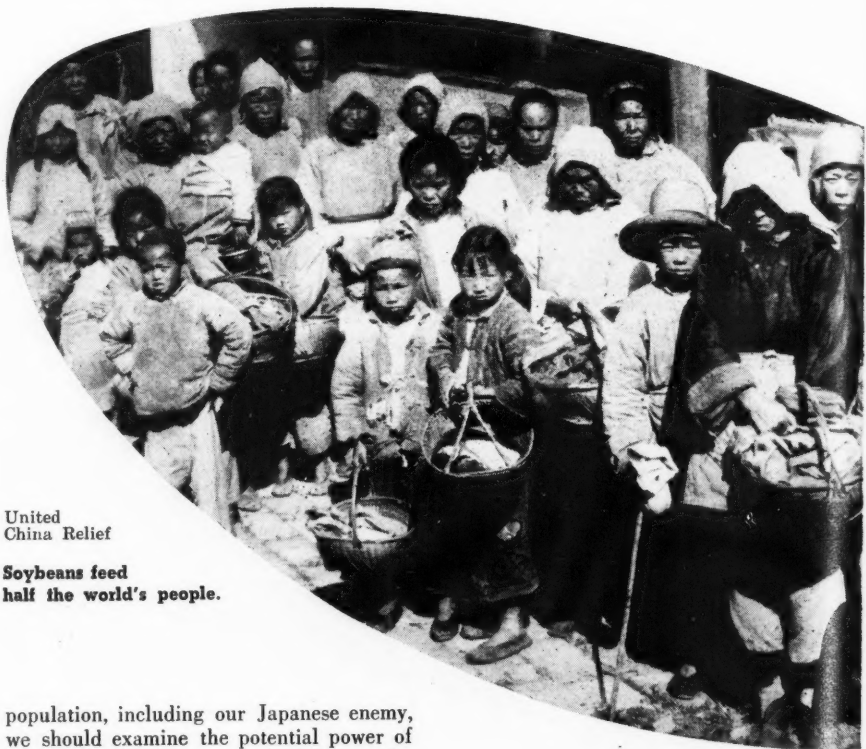
The same thing is true in conquered Europe. The coming invasion will require a huge supply of food for liberated Europe. The urgent question now is how to produce sufficient food for millions of war victims the world over. The answer is to emphasize and encourage the production of a high-caloric and high-nutrient crop that will also have high yielding capacity with a relatively small expenditure of manpower; that is, increase the efficiency of food production in terms of energy food values. In this respect, the soybean stands out far

above other kinds of foodstuffs. The soybean can yield 36 times as much energy food as the same amount of farm labor used to produce meat. One acre of soybeans can yield as much food as 11 acres of land devoted to raising livestock. This is why soybeans have been repeatedly advocated as a "duration crop" to insure more efficient production of food.

We are engaged in a global war, and we have proclaimed ourselves as the "arsenal of democracy." The whole world is looking to the United States. Since we know soybeans are the staff of life of half the world's

In 1941, farmers were advised to increase the 1942 planted area of soybeans to 7 million acres—1 million acres more than 1941. Later the government asked to increase 1942 planted area to 9 million acres, but a government report, late in 1942, showed 10,867,000 acres which yielded 209,953,000 bushels of soybeans. To avoid possible mistakes, the production of soybeans should be planned on a much larger scale—geared to the present war-time requirements.

The value of the soybean in terms of global war needs can be gauged by the fact that one pound of soybean with its 1993



United China Relief

Soybeans feed half the world's people.

population, including our Japanese enemy, we should examine the potential power of soybeans: First as a reserve food supply, and second as relief food for the war-torn, hungry nations. Marvin Jones, War Food Administrator, says "for relief food emphasis is on grains, beans, peas, soya products with certain minimum amounts of animal protein." Soybeans are not rationed now in the United States. If they are used mainly for relief needs, the domestic trade in foodstuffs would not be disrupted. With superior American machines and method of culture, soybeans can be produced in large volume, and manufactured into superior products. It is conceivable that these products in big volume can be even siphoned into export trade long after this war.

calories of food energy is a full day's fighting ration of a Chinese soldier. Computed in another way, 1,000 acres of soybeans, with a yield of 25,000 bushels, would supply a full day's combat energy of 1,500,000 Chinese troops.

A shift in field crops to provide for planting 20 million acres of soybeans should not be any great hardship. Just imagine what this crop could mean. The yield of 500 million bushels of soybeans would be enough to feed 80 million people for a whole year. This may shorten the war one



full year, and effect the saving of thousands of American lives.

The world's hope for food is disappointing by the official statement that the United States "is not the food basket of the world." This frank statement should not be misinterpreted. It means only that this country does not have enough land and labor to produce sufficient food in the form of meat, milk and eggs to justify very generous promises. But it is different with soybeans as the "land-economical," direct human food. The big advantage of soybeans over livestock converted food is in the ratio of 36 to 1 in terms of labor and food energy cost, and 11 to 1 on the basis of acreage.

#### TO MEET EMERGENCY

With the soybeans, Asia has managed to support almost half of the world's population on only one-eighth of the world's land area. The poor masses of China, who cannot afford meats and dairy products, have existed for centuries in their overcrowded conditions on an extremely simple diet of soybeans. Though this was done without a conscious thought of dietetic rules, time has proven it is a well balanced food.

The people of the United Nations who are fighting against the common enemy must not be incapacitated for lack of food energy. As the production of soybeans is needed to feed the hungry victims of war, every effort must be made to meet this emergency demand. We must also realize that "the prosperity of one nation cannot long survive amidst a world of starving peoples."

Aside from triumphal glories through victories either by the invasion of Europe or through offensive in the Pacific, there are tasks to fulfill. One thing is certain—there must be food provision not only for military needs but also for the half-starved civilians. As the troops open the way, they must be followed with food. In military operations most of the local foodstuffs are destroyed or removed, and normal transportation disrupted. Until trade between rural and urban areas can be re-established, new crops planted and harvested, relief food will be needed by the people of the liberated area.

In planning the relief ration, it is necessary to consider both the nutritional deficiency of the local food supplies and the availability for shipment. In the early stages of relief feeding, there is the need of ready-to-eat processed foods suitable for feeding under unfavorable conditions. Such supplies must be economical in the use of shipping and storage space as well as high stability and nutritive values. There must be plans to process special rations, such as milk powder, for small children, expectant mothers and hospitalized cases. To fulfill all the above requirements, there is nothing that can match the versatility of soybeans and their allied products. This has been consistently advocated by the U. S. department of agriculture.

Millions of war victims are now in urgent need of food. They are starving! The thing to do is to produce the "miracle loaf" from the miracle beans.

## Wing Homestead



Above is the homestead of Woodland Farm of Champaign County, near the picturesque town of Mechanicsburg, Ohio. Woodland is one of that state's show farms. The man who brought it into prominence was Joseph C. Wing, long an authority on sheep and alfalfa, and the father of David G. Wing, present American Soybean Association director from Ohio. Joe Wing was the first strong propagandist for alfalfa in the Central and Eastern states and was largely responsible for its prominence in those regions. He was author of "Alfalfa Farming in America," and "Sheep Farming in America." Director Dave Wing was born and reared on Woodland Farm. His mother lived there until her recent death.

## Air Attack on Soybean Fields

Fighting grasshoppers in Green County, Ill., by airplane. Poison bran mash is being sprayed on a soybean field of the Valley Farms near Carrollton to check ravages of insects which destroyed thousands of acres of crops in that area. The plane was brought in from Memphis, Tenn., last summer at the instance of Ray H. Roll, Green County farm adviser. By this method 50 acres of land could be baited in less than 10 minutes time. Over 2,000 acres were covered with the poison bait. Farmers who cooperated reported the grasshopper population to be cut as much as 75 percent.

—Photo St. Louis Post-Dispatch



## SOYBEANS . . . and People

# MEAT LOAF PATTIES

On A Time Budget

IT IS a big time saver to prepare two dinners at one time. The sliced meat loaf was carefully saved from the Sunday dinner loaf — the mashed potatoes were prepared on Monday night, a double quantity cooked at dinner time. On Tuesday, this brand new dinner gives no hint of left-overs, except to the very wise.

### Meat Loaf Patties

- 4 thick slices meat loaf
- 2 cups mashed potatoes
- 2 tbs. fortified margarine, melted
- 2 cups peas, seasoned

Cut meat loaf slices about  $\frac{1}{2}$  inch thick. Top with mashed potatoes. Hollow out the center of the potatoes. Brush potatoes and meat loaf with melted margarine. Bake in moderate oven (350° F.) about 25 minutes, until meat and potatoes are heated through and the potatoes browned. Fill hollows of potatoes with seasoned peas or any other vegetables such as asparagus or cubed carrots. Serves 4.

To season Peas: Add 1 tablespoon fortified margarine and 1 tablespoon minced parsley to cooked peas and heat gently, covered. Salt and pepper to taste.



### Genuine Soy Sauce

Famous cooks and expert chefs insist on La Choy Soy Sauce not only in making genuine Chop Suey, Chow Mein, and other Chinese dishes, but also in frying steaks, chopped meat, meat balls and hashes—in making gravies and stews—for serving on the table as a condiment for steaks, chopped meat, roasts, chops, croquettes, spaghetti, fried eggs and sea food.

LaChoy Food Products, Archbold, Ohio  
Division of Beatrice Creamery Company



### Meat Loaf with Soya Bits (Serves 8)

- $\frac{3}{4}$  cup Soya Bits
- $1\frac{1}{2}$  cups water
- $\frac{3}{4}$  cup fortified margarine
- $1\frac{1}{2}$  lb. ground beef and veal, mixed
- 1 onion, minced, or
- 2 tsp. onion salt
- 1 egg, slightly beaten
- (1 tbs. salt, if onion salt is not used)
- $\frac{1}{2}$  tsp. dry mustard
- $\frac{1}{4}$  tsp. pepper

Mix together Soya Bits and water and let stand 5 minutes. Add remaining ingredients and mix well. Shape into loaf (about 9x4), place on greased baking dish, dot top with extra margarine. Bake in moderate oven (350° F.) about  $1\frac{1}{2}$  hours, until well cooked through.

### Peppy Meat Loaf

- $1\frac{1}{4}$  cups boiling water
- 1 cup soybean flakes or grits
- 4 tablespoons fortified margarine
- 1 onion, finely minced
- 1 pound ground meat
- 2 teaspoons salt
- $\frac{1}{4}$  teaspoon cayenne pepper
- $\frac{1}{2}$  teaspoon allspice
- 1 teaspoon celery salt
- 4 tablespoons water
- 4 tablespoons ketchup or chili sauce

Pour boiling water over flakes and let stand while mixing other ingredients. Saute onion in margarine. Combine beef, onion, salt, pepper, allspice and celery salt. Add flakes and mix thoroughly. Turn into a bread pan. Mix water and ketchup and pour over the top. Bake the loaf in moderate oven (350° F.) 55 to 60 minutes. Serves 10.

### Spicy Soy Gingerbread

- 2 cups cake flour
- $\frac{1}{4}$  cup sifted soybean flour
- 3 teaspoons baking powder
- $\frac{1}{4}$  teaspoon soda
- $\frac{1}{4}$  teaspoon salt
- 2 teaspoons ginger
- $\frac{1}{2}$  teaspoon allspice
- $\frac{1}{8}$  cup fortified margarine
- $\frac{1}{2}$  cup sugar
- 1 egg, well beaten
- $\frac{2}{3}$  cup Old Fashioned molasses
- $\frac{3}{4}$  cup sour milk or buttermilk

Sift cake and soybean flour before measuring. Add baking powder, soda, salt, spices and sift together with flour twice. Cream margarine. Add sugar gradually and cream together until light and fluffy. Add egg and blend. Mix molasses and milk. Add flour mixture alternately with milk mixture. Beat after each addition until smooth. Bake in a greased pan 8x8x2" in a moderate oven (350° F.) 50 to 60 minutes. Serve hot or cold.

Spicy Soy Gingerbread, served hot with a topping of Fruited Cream Cheese, makes a most elegant dessert.

### Fruited Cheese Topping for Hot Gingerbread

- 3 oz. pkg. cream cheese
- 2 tablespoons sour cream (if available)
- $\frac{1}{4}$  teaspoon nutmeg
- Pulp of 2 cooked peaches, apricots or pears, or
- 2 tablespoons tart jelly or preserves

Fold together; chill. Serve over Spicy Soy Gingerbread — a royal dessert.

### Soy Meat Pie Crust

- $\frac{1}{8}$  cup soy flour
- $\frac{2}{3}$  cup enriched flour
- $\frac{1}{2}$  teaspoon salt
- $\frac{1}{8}$  cup shortening
- 2 tablespoons ice water

Sift soy flour and enriched flour separately. Measure and sift together with the salt. Cut in shortening. Blend in ice water lightly. Toss on a lightly floured board and knead lightly to blend together. Roll out to one-eighth inch in thickness and place over the meat and vegetables in the casserole, pressing edges firmly to casserole. Make several slashes to allow steam to escape. The trimmings from the pastry can be cut in the shape of leaves and rounds of different sizes with a pastry wheel which scallops the edges. These are placed on top of the crust to make a very attractive decoration. Bake in a hot oven (400° F.) for 30 minutes.

This is a satisfying one-dish dinner. Serve with cabbage salad, a cole slaw or with some other crisp, raw vegetables.



## ASK DISEASE APPROPRIATION

One representative each from the American Soybean Association and the National Soybean Processors Association met with the chairman of the Budget Bureau at Washington, D. C., October 18 to request increased appropriations for study of soybean diseases at the various federal and state experiment stations.

The move was in line with the resolution to ask for increased funds for combating the rapid spread of soybean diseases, which was adopted at the 25th annual convention of the American Soybean Association at Urbana, Ill. David G. Wing, director from Mechanicsburg, Ohio, represented the Association; C. F. Marshall of Allied Mills, Inc., the National Soybean Processors Association.

As stated by Director Wing: "It is interesting to note that for 1944 about \$8,000 was spent on soybean disease work. This was used at the U. S. Regional Soybean Laboratory at Urbana, Ill., under the supervision of W. B. Allington, who gave us a report at our annual meeting in September.

"At the same time there was appropriated last year some \$35,000 for work with oats diseases in the United States. This seems absurd to us in view of the fact that the soybean is developing so fast and has such a large investment in processing plants, farm equipment, etc."

If favorable action is obtained by the Budget Bureau, it is expected that the U. S. Department of Agriculture will place a plant specialist at several federal and state experiment stations in the field to investigate the special problems existing in the different regions.

— s b d —

## VIOLATES SEED ACT

M. B. Diederich, North Ridgeville, Ohio, on September 21, 1944, entered a plea of guilty in the District Court at Cleveland, and was fined \$300 for violation of the Federal Seed Act.

The violation consisted of falsely advertising and delivering for transportation in interstate commerce 6 bushels of soybean seed of the old Midwest variety which had been previously advertised and was represented to be a new variety called "McClave," and delivering for transportation in interstate commerce 20 bags of soybeans of the Mt. Carmel variety that were labeled "BX" an abbreviation of the words "Buckeye Cross" also represented to be a new variety. The shipments were made in April 1942.

The advertisements with respect to so-called "McClave" soybeans had been disseminated in the fall of 1941. The variety was described as being a high yielder, early maturing, and non-shattering, and to be high in oil content, a characteristic looked for in soybeans in the early days of the war.

The advertisements contained excerpts lifted from reports of experiment station trials made under different conditions. The excerpts were so placed together in the advertisements as to create the false impression that the so-called "McClave" was high in yield and oil content as compared with other varieties grown under comparable conditions.

The Midwest variety was discarded by farmers many years ago because of its inferiority to newer varieties. The advertisements were disseminated rather widely throughout the Middlewest and quoted the seed at \$12.00 per bushel. Earlier buyers are reported to have paid much higher prices.

— s b d —

## CARGILL, INC. PLANT BURNS

The most spectacular fire in Cedar Rapids, Iowa, in years destroyed the soybean processing plant and a large portion of the feed mixing equipment of Cargill, Inc., in that city October 11. Estimated loss was \$200,000.

The plant was the first soybean processing plant to be established west of the

Mississippi. It was first operated in 1927 by Joe Sinaiko and Max Albert.

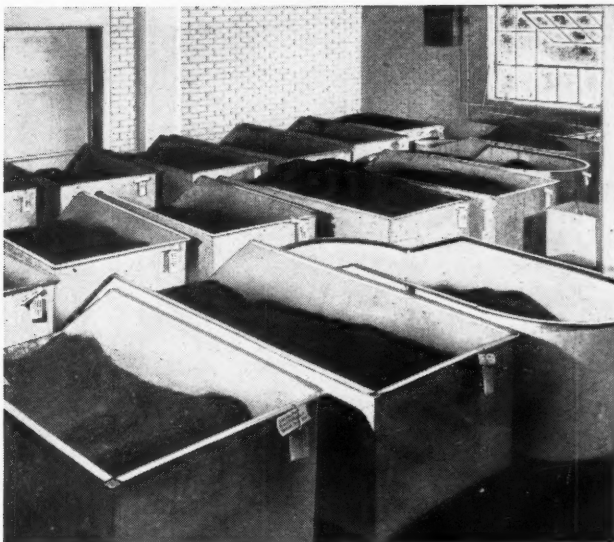
The company's offices located across the street, the concrete grain storage tanks which run parallel to the mill, and the feed warehouse which was in the same structure were saved.

Flames reached a height of approximately 100 feet above the mill and sent a shower of sparks and ashes drifting over the main business district of the town, a few blocks away. Thousands of spectators were attracted by the conflagration.

The soybean plant was almost a complete loss as all the machinery from the three-story brick structure is now a twisted, tangled mass in the basement.

Cause of the fire has not been determined. It apparently started in the vicinity of the boiler room.

## Fixo Says: "PRE-TESTING" INSURES YOUR PROFITS



Nod-O-Gen is always pre-tested. Before any lot of Nod-O-Gen is released for shipment by our chief bacteriologist, it must pass a series of rigid tests . . . tests in the laboratory and in the greenhouse. Each must contain extra Billions of "Bugs" . . . strong, virile bacteria of the right kind.

Because of this strict Pre-testing program Nod-O-Gen has made an unsurpassed record of performance both in producing better crops for growers and larger profits for dealers.

The illustration shows a series of bins containing special humus inoculated with Pedigreed Nod-O-Gen bacteria awaiting the results of the pre-testing program.

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**NOD-O-GEN**  
THE  
**PRE-TESTED INOCULATOR**

# THANKS, FOLKS!

You and members of your editorial staff deserve to be commended on the fine arrangement of articles and general good workmanship in editing the September issue of *The Soybean Digest*.—Edwin G. Strand, agricultural economist, Bureau of Agricultural Economics, Washington, D. C.

I want to compliment you on your Silver Jubilee issue. It is fine. A. J. Surratt, Illinois Agricultural Statistician, Springfield.

Congratulations on your last issue of *The Digest*. I have not had time to read it all

over yet, but what I have read is good. —Lyman Peck, Central Soya, Inc., Fort Wayne, Ind.

May I congratulate you on your Silver Jubilee number. —Russell S. Davis, Clayton, Ill.

This convention contained perhaps the most information ever assembled at one time regarding soybeans. By this I mean not only the exhibit but also the large number of outstanding speakers. —J. M. Dowell, Do-Well Agricultural Service.

Congratulations on your Silver Jubilee issue. It is outstanding. —E. L. Little, managing director National Farm Chemurgic Council, Columbus, Ohio.

What a pretty September issue of *The Soybean Digest*! Are you going to continue the red color? It certainly makes it attractive. Also the contents are verily important. —Mrs. Lee R. Sappington, Roscoe, Calif.

The Silver Jubilee issue is a beaut. It is packed with information that alone provides an education in soybeans. —Edward J. Dies, president National Soybean Processors Association, Chicago.

We want to take this opportunity to compliment you on this excellent issue, for it really is a credit to the editors as well

as the soybean industry. —Hugh F. Armstrong, manager, I. F. Laucks, Inc., Portsmouth, Va.

This is a splendid issue and certainly very historical. We would like to get some extra copies if at all possible. —Clarence E. Peters, president Haynes Milling Co., Portland, Ind.

I think it is a wonderful issue. —H. O. Butler, Butler Food Products, Cedar Lake, Mich.

Congratulations on *The Digest*. It's grand. —W. L. Burlison, head Department of Agronomy, University of Illinois.

I think you have done a splendid job in putting this out. —F. C. Bauer, professor soil fertility, University of Illinois.

EDITOR'S NOTE: Drs. Burlison and Bauer, as well as many others, played a large part in making the September issue what it was. Copies are still available for 15 cents each, while they last, at our office in Hudson, Iowa.

—s b d—

Field experiments show that soybeans can tolerate a fairly high degree of phosphorus deficiency but suffer if supplies of available potassium are moderately low. Potassium can be applied by the use of manure, straw, muriate of potash or mixed fertilizers rich in potash. Fertilizers containing potash may be broadcast or drilled, but close contact with the seed should be avoided.



## BUILT TO GIVE Trouble Free Service

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## REPORT FROM J. E. JOHNSON

Editor, *The Soybean Digest*:

The usual reports on Lincolns are from 5 to 8 bushels higher, than other varieties for this year. In most cases the fields are small and on the best land. We haven't grown this variety in wide enough test to determine fully what it will do in comparison to other dependable varieties.

We know it has merit, as we also know that with us the Chief soybean that had its run some years back is coming back into its own this year. An outstanding bean for thin soils and for wide rowing. We must say that the wise grower will study his lesson very carefully and fit the bean even to the field as well as the farm.

The soybean harvesting in this territory is 65% completed (October 22). Much of the delay is caused from lack of cars to move the beans. The common impression is, this is a planned car shortage so that the beans would be kept back on the farms and in local storage. One grain point shipping 23 cars to last Saturday had never had a car that was loaded with beans when set in. As you know ordinarily they are shuttled back and forth as quickly as unloaded. Do know the labor shortage is a factor at the unloading point. Two points visited Saturday received one car each that afternoon, this being the first for the week.

Beans will be shipped out of the state this year as you perhaps know and the reason is associated with the distribution of cars as it seemed the CCC was not going to do what they did last year.

From indications at this time I expect the usual stress to be placed on the corn and soybean acreage. My observations are that farmers are neglecting the importance of the crop rotation as I have tried to set out. The excuse is, grow high profit crops while prices are high. This is fine if he had built up his soil reserves, otherwise he will find he must continue to crop heavily when prices go down to have an income. This we find was true during the period when farms were being foreclosed in a wholesale manner.

Have never seen the yield variation as wide between good and poor or even medium fertility as it is this year. Our yields have been "providential" in the past 2 or 3 years.

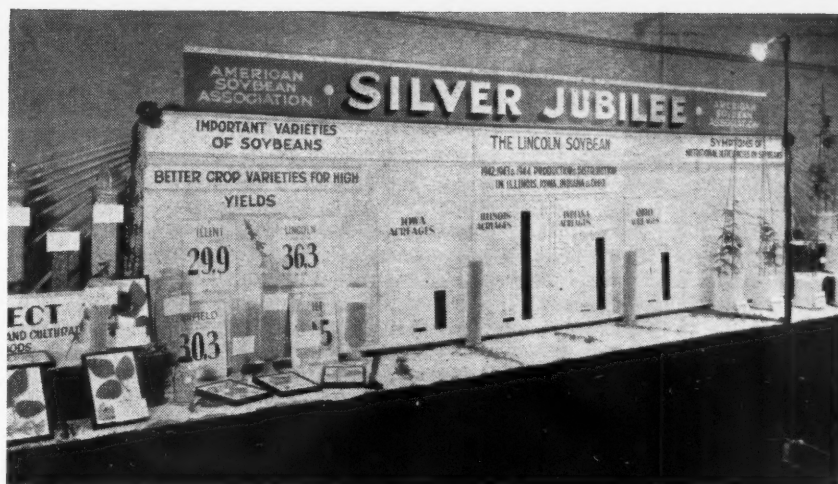
J. E. JOHNSON,  
Champaign, Ill.

— s b d —

## JUBILEE EXHIBITS

Many highly complimentary comments have reached *The Digest* concerning the educational exhibits at the Silver Jubilee meeting of the Association at Urbana. These exhibits, possibly the most extensive ever prepared by an Association convention, displayed 70 different soy food products, seven different kinds of livestock feed products, and 47 industrial products.

These were in addition to the University of Illinois display which covered composition of the soybean, soil depletion of various grains, soybean market grades, soybean varieties, and a history of the Lincoln soybean. Picture at upper right-hand shows a portion of the University display.



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## RESEARCH



### Soybeans and Butterfat

The following interesting statements on the relationship of the fat content of the soybean oil meals and of whole soybeans to dairy cattle feeding were made by G. Bohstedt, chairman of the Department of Animal Husbandry, University of Wisconsin, before the Feed School of the Western Grain and Feed Association and the Feed Institute of Iowa in Des Moines September 25:

There is an interest in the question of fat in dairy rations. Attention has been focused on experiments conducted years ago where it seemed that the percentage of fat in dairy grain mixtures had a decided

influence on the butterfat production of those cows. More recent work by various experiment stations, however, has served to deemphasize the importance of having a certain level of fat, and has served to show that dairy mixtures did not need to have as much as 4 percent or even as much as 3 percent fat in order to have cows produce well at the pail. This question naturally is an important one in consideration of the increased use of the chemical extraction, or the solvent method, in the preparation of oil meals. The chemical process removes oil much more efficiently than the mechanical or expeller process, and oil is an important wartime commodity. Recent ex-

perimental findings are reassuring in respect to the oil content of oil meals or of dairy rations, and tend to give solvent oil meals an assured place in dairy cattle as well as other livestock feeding. What one soybean oil meal as compared with another may lack in fat, it makes up in protein, and vice versa. Where expeller soybean oil meal may have 5 percent fat and 41 percent protein, the solvent soybean oil meal may have 1 percent fat but 46 percent protein. While fat and protein serve different purposes in nutrition, they are worth about the same, pound for pound.

At any rate, the production of butterfat in the milk does not depend entirely on the fat content of the concentrate mixture that is fed the milking cow, but depends in large part, perhaps for the most part, on the roughage that she receives. Some investigators have suggested that the seat of fat formation is in the rumen of a cow, where in the breakdown of carbohydrates, including cellulose, considerable quantities of fatty acids are produced. These in the subsequent synthesis within the body proper may be converted into fat.

An interesting contribution in respect to the possibility of raising the percentage of butterfat in milk through feed was made by the Indiana Experiment Station workers at Purdue University. While their findings are as yet unconfirmed by any considerable work at other experiment stations, it suggests that contrary to a general belief among investigators, the butterfat percentage of cow's milk may be raised at least slightly and apparently for an indefinite period of time, by feeding liberal amounts of ground soybeans in the ration. They report a significant increase in the fat content of the milk when 25 percent of the grain mixture consisted of ground soybeans which are rich in fat. When after 180 days the ground soybeans were removed from the ration, there was a drop in the butterfat percentage. These findings are of interest in view of the general concept that an effect of this sort is only temporary, and that the butterfat percentage is definitely a breed or individual characteristic. Therefore more can be done by a breeding program than by feeding.

—s b d—

### No Protein Loss By Sprouting

It has long been recognized that some protein foods are more efficient in supplying the amino acid requirements of the body than others, report Dr. Richard J. Block and Diana Bolling in a paper before the American Home Economics Association.

Thus, say Block and Bolling, proteins of animal origin are generally considered superior to those of plant origin. Even this rough classification may be quite misleading, for certain proteins of plant origin are decidedly superior to some of animal origin. If the degree of digestibility and the essential amino acid composition of protein



**I**N THIS WAR the railroads have done twice as big a transportation job as in the first World War.

But they are doing another job which may not be so well known, as is shown by these contrasting facts:

*In the last war, the operation of the railroads took money out of the United States Treasury.*

*In this one, the railroads are putting money into the Treasury.*

In the last war, when the Government took over the railroads, even though freight rates and passenger fares were

raised, Congress had to appropriate more than \$1,600,000,000 to meet deficits.

In this war, the railroads have been managed by their owners. A far bigger and better transportation job has been done. And, since Pearl Harbor, the railroads have turned into the United States Treasury the tremendous sum of \$3,250,000,000 in taxes—and today are paying federal taxes at the rate of nearly \$4,250,000 every 24 hours.

That's five million dollars a day paid in taxes—ten times as much as the owners receive in dividends.

Send Christmas Gifts before December 1st



**ASSOCIATION OF  
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—Photo Feed Bag.

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## GROWERS



### Costs of Production

For 24 years, a group of farmers in Champaign and Piatt Counties in east central Illinois has kept records of the cost of producing farm crops, reports *Illinois Farm Economics*.

Costs included a charge for the labor of the operator and members of his family and for seed and other non-cash items just as if they had been hired or purchased by the farmer, and include a rental charge for land equal to the taxes on the land, and an interest charge of 5 percent of the current land value.

The operating expenses for producing an acre of grain soybeans were \$12.10. When land charges were added, the net cost of producing an acre of grain beans was \$18.84. The yield per acre was 25.3 bushels, and the average cost per bushel was 75 cents.

Only 22 percent of the farmers cut more than two or three mower widths around their soybean grain fields and used these cuttings for hay. Therefore, in considering the cost of producing soybeans, some credit should be allowed for the fact that cutting borders of soybean fields is as much a method of opening up grain fields for the com-

bine as a method of producing hay. No such credit was given the soybean hay crop as it is not known how much should be allowed. In 1943 the operating expenses for growing and harvesting an acre of soybean hay were \$22.33. When land charges were added, the cost of producing an acre of soybean hay was \$30.16. The yield per acre was 1.82 tons, and the average cost per ton was \$16.60.

TABLE 1—The cost of producing soybean crops in 1943, Champaign and Piatt Counties, Ill.

Growing cost per acre			
Man labor .....	\$1.28		\$1.22
Power, truck and machinery ..	1.99		1.86
Seed .....	3.34		3.15
Fertilizer .....	.89		1.21
Other expenses .....	1.24		3.59
Total growing costs .....	\$8.74		\$11.03
Harvesting costs			
Man labor .....	\$ .62		\$6.16
Power, truck and machinery ..	.48		5.14
Combine .....	1.15		
Total harvesting cost .....	\$2.25		\$11.30
Cost of growing & harvesting	\$10.99		\$22.33
Taxes .....	1.36		1.41
Interest on land .....	6.74		6.42
Total cost per acre .....	\$19.09		\$30.16
Net cost per acre .....	\$18.84		\$30.16
Total income per acre .....	\$45.53		\$22.17
Yield per acre, bu. or tons.....	25.3		1.82
Net cost per bushel or ton .....	\$ .746		\$16.60

— s b d —

## The Coming Relaxation of MARKET RESTRICTIONS

Two developments of great importance are obviously getting nearer:

- 1 Re-opening of futures markets now closed because of world conditions — creating enlarged interest in commodity trading as a whole.
- 2 Elimination of "ceilings", "floors", and other restrictions on free price movements.

When these conditions exist, trade interests, even more than at present, will need quick, interpretive information—of the kind that experienced businessmen can use to advantage. And that's the kind of information that is gathered, condensed and quickly dispatched through our 85 offices, 60 of which are located in areas where commodities are either grown or processed, by an interconnecting wire system.

We offer also, for example, a specialist in the commodity in which you are most interested who has built his business lifetime around that particular staple. Our authoritative weekly surveys have proved valuable to many; our detailed special surveys are noted for their timeliness.

Why not let these advantages work for you in the fast-moving days ahead? By investigating now you can be better prepared for the future. Consult an executive in our home office, 70 Pine Street, New York, or in one of our offices nearer you, if you prefer. Write name and location and we will send you information as to how to reach the person most conveniently located.

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## PUBLICATIONS

LEVEL FARMING ON SLOPING FIELDS. J. I. Case Co., Racine, Wis. An attractive, well illustrated 16-page booklet that gives in a readable and concise form the why and how of contour farming. Three reasons for contouring are given equal emphasis: (1) saves tractor power; (2) produces high yields; and (3) conserves soil, water, seed and fertilizer.

## FOR SALE BANSEI SEED BEANS



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NEW YORK 16, N. Y.





## GRITS AND FLAKES

FROM THE INDUSTRY



H. D. Hume Co., Mendota, Ill., manufacturers of special harvesting equipment for down crops such as wheat, soybeans, rice, peas and flax, announce shifts in executive responsibilities and acquisition of a new sales director in preparation for post-war expansion. H. D. Hume, cofounder of the business in 1931 with H. E. Love, serves as chairman of the executive committee and heads up the general research program of the company. R. A. Mitchell, formerly manager of the company's plant at Garfield, Wash., has been named manufacturing manager and vice-chairman of the executive committee. J. Chris Serup, formerly district manager of the motor truck branch of International Harvester Co., at Dubuque, Iowa, has been engaged to head up the sales and marketing activities, and is executive secretary of the firm.

Installation of a new vitamin feed supplement production unit at the Waterloo, Iowa, plant of the Soy Bean Processing Co., division of The Borden Co., has been announced by C. F. Kieser, Borden vice-president. The new unit, which will produce various supplements for poultry and livestock feeds, was established to centralize production and

thereby give better service to Midwest feed manufacturers, according to Mr. Kieser. Other Borden plants for the production of feed supplements are located at Elgin, Ill., and Hampshire, Ill. H. L. Waack, formerly with the Special Products Division of The Borden Company at its Elgin plant, will be superintendent of the Vitamin Supplement Department. C. E. Butler is president of the Soy Bean Processing Co.

Officials of Central Soya, Inc., Fort Wayne, Ind., have announced the appointment of Dr. J. K. Gunther as director of Research. Dr. Gunther for the past 8 years has been associated with the research department of Swift & Co., Chicago. In his new capacity at Central Soya, he will direct all research activities which are being carried on in the field of soybeans and soybean products. Central Soya for several years has been carrying on extensive research in this field, and the program is continuously expanding. Dr. Gunther's appointment is in line with the expansion.

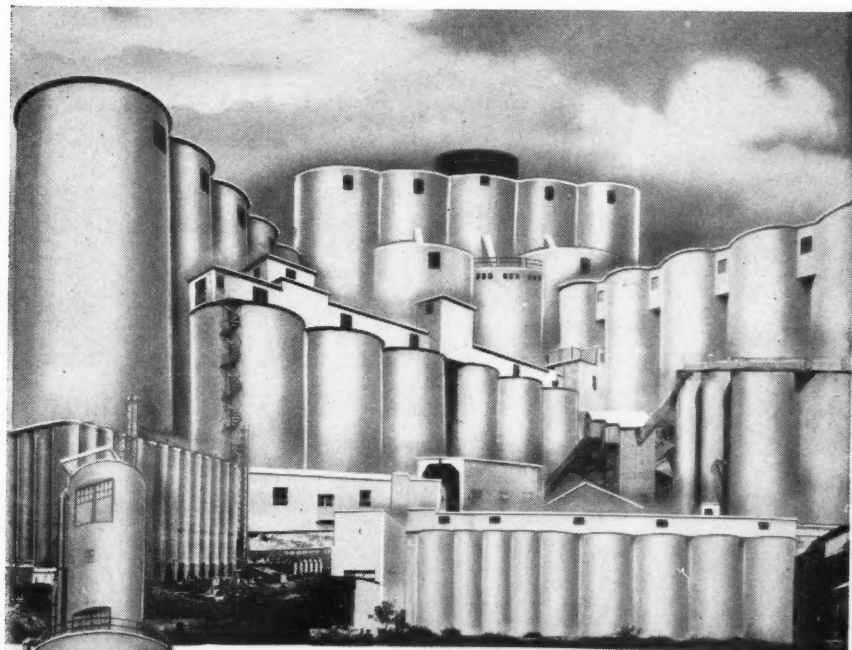
Swift & Co., Chicago, Ill., have announced plans for the construction of a new soybean oil mill at Frankfort, Ind. Building operations are to begin as soon as delivery of



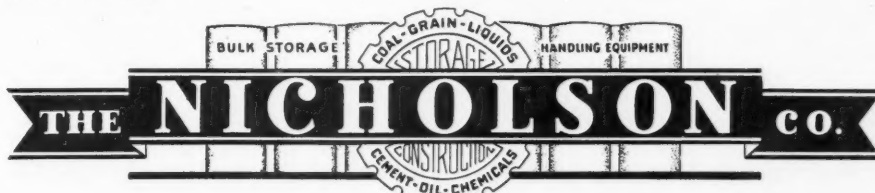
GUNTHER

needed materials can be obtained according to officials. Twenty-four acres have been secured for the plant site and a battery of reinforced concrete elevators, a processing and extraction building, a utility building and offices will be constructed. Swift & Co., now operate soybean oil mills at Champaign, Ill., Cairo, Ill., Des Moines, Iowa, and Fostoria, Ohio.

The first of several contracts in connection with the construction of the soybean mill of Consumers Cooperative Association at Coffeyville, Kans., has been awarded to the Dalton Construction Company, Joplin, it has been announced by E. L. McIntosh, manager of the new plant. Two contracts totaling about \$20,000 were given to the



To use a colloquial expression—designing and constructing bins for handling soy beans is "right down our alley."



Ten Rockefeller Plaza, New York 20, N. Y.

## Engineers Who Can Design and Construct Bins Like These

Can Put Up Efficient, Low-Cost  
Bins for Handling Soy Beans

After all, experience counts most . . . and Nicholson Engineers and Constructors can certainly point to plenty of experience in the field of concrete bins and tanks. Starting back in 1914, this experience has taken them all over the world. Practically every kind of dry material requiring bin storage and handling is represented in the extensive list of Nicholson Jobs.

Dalton Company for construction of concrete bases upon which the storage silos will be placed and for building a mill and warehouse building. The total cost of the soybean plant will be about \$150,000, McIntosh declared.

A suggestion that soybean processing plants be urged to produce more pellets has been made by members of the Kansas feed advisory committee in Kansas City. While the over-all, national outlook for protein concentrates is believed to be more favorable than last season, ranchers who winter cattle on the range are having difficulty in obtaining protein in bulky form. Normally they feed cottonseed cake, but this product is relatively short at this time. Soybean meal, if in pellet form, could replace the cake.

John H. MacMillan, Sr., 75, chairman of the board of Cargill, Inc., Minneapolis, and head of the Cargill enterprises since 1909, died Oct. 20 in Minneapolis, following an illness of slightly more than a month. A former president of the Minneapolis Chamber of Commerce and head of the Council of Grain Exchanges during World War I, Mr. MacMillan's business activities included directorships in the Millers National Insurance Co., Chicago, and the First National Bank, Minneapolis.

Storage tanks now nearing completion provide the Swift & Co. soybean mill at Fostoria, Ohio, with a total storage space

of 1,060,000 bushels. By the middle of November approximately 600,000 bushels were being stored in the new addition, announces H. D. Hollett, the manager. The new unit is equipped with the most modern installations for handling soybeans, such as the Zeleny Thermometer system, Day dust arresting system and high-speed distributing and reclaiming conveyor belts.

The new 1944-1945 Year Book and Trading Rules of the National Soybean Processors Association is now off the press. Besides the trading rules, list of members, standing committees, and the like, the book contains an appendix on official methods of analysis on soybean oil meal and soybean oil. Copies are available at Association headquarters, 3818 Board of Trade Building, Chicago 4, Ill.

A new soybean processing plant will be opened sometime in November at Ohio City, Ohio, by the Holland Pioneer Mills, Inc., G. A. Holland, president of the company has announced. The plant, representing an investment of \$60,000, will produce 50 tons of soybean oil meal daily when operations begin.

\* Rock Island Lines have prepared maps of soybean production by counties for the state of Kansas and the state of Missouri which show the actual production for 1940, 1941 and 1942 and the estimated production for 1943. Also, a map for the state of Nebraska on which the actual production

is shown for 1941 and 1942 and the estimated production for 1943.

The Iowa Farmers Union at its annual meeting in September urged Commodity Credit Corporation to establish a minimum price for off-grade corn and soybeans. It was the sentiment of the meeting that otherwise farmers might have to take excessive discounts should these off-grade crops be offered on the cash market.

Mark G. Thornburg, secretary of the Western Grain & Feed Assn., has announced that his organization will hold its 45th annual convention at Hotel Fort Des Moines in Des Moines. The 1944 gathering of the association will be a one day affair and is slated for Monday, Nov. 27.

The 11th annual Farm Chemurgic Conference will be held at St. Louis March 28-30, 1945.

—sbd—

## LEADERS TEACH VEGETABLE USE

The home bureaus of 14 Illinois counties have requested local leader training schools on use of soybeans for the fall and winter months.

Vegetable soys were included in many home gardens for the first time in 1944, and women are anxious to learn ways to use and preserve the beans and to grow and to use the bean sprouts. They also want information on soy products now available in many local markets.



Specify FULTON Cotton Bags for shipping soybeans and soybean meal.

## Use FULTON Quality COTTON BAGS

As containers for shipping soybean meal they give real satisfaction. In addition Fulton Quality Bags have the advantage of valuable re-use to farmers and farmers' wives. Made of sturdy, even quality cotton cloth, they amount to a worthwhile premium.

### FULTON BAG & COTTON MILLS

Manufacturers since 1870

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## YIELD ESTIMATE UP AGAIN

The USDA crop reporting board November 1 estimated total national soybean production at 193,900,000 bushels, nearly 8 million bushels more than the October estimate and except for 1943 production the largest on record.

Estimated production in the 10 principal states is 182,378,000 bushels, about 3 million less than was produced in the same areas last year. Estimated per acre yield is 18.1 bushels, .7 bushel higher than a month ago and equal to the 1943 average.

October weather in the main was unusually favorable for maturing and harvesting the crop. Killing frosts were a month later than usual in many states, allowing late plantings to mature. Harvesting made very rapid progress and in many areas was unusually far advanced by November 1.

Because of the rapid rate of harvesting handling facilities were often swamped during October. As explained by one member of the trade: "Facilities in elevators, on railroads, in terminal points, and in processing plants were never built large enough to stand the total movement of any crop in 2 or 3 weeks. It was like blowing up a big dam across a river, setting free an avalanche. All branches of the trade did their noble best to keep things going."

### ARKANSAS

**Charles F. Simmons, extension agronomist, Little Rock:** Despite shortage of labor harvest progressing satisfactorily. Most beans grading No. 2 or better. Only very small acreage would be hurt by frost before Nov. 1. Soybeans recovered much better than expected from midsummer drought. Yields now estimated at 15½ bu. compared to 13½ Sept. 1 and 12 bu. for 10 year average. Crushing of oilseed just started.

**Jacob Hartz Seed Co., Stuttgart, Ark., for Stuttgart trade territory:** 80% of crop harvested by Nov. 1. No frost or drought damage. Beans grading fair. Yields possibly 10% higher than 1943. Storage facilities inadequate and protein concentrate situation short in this territory.

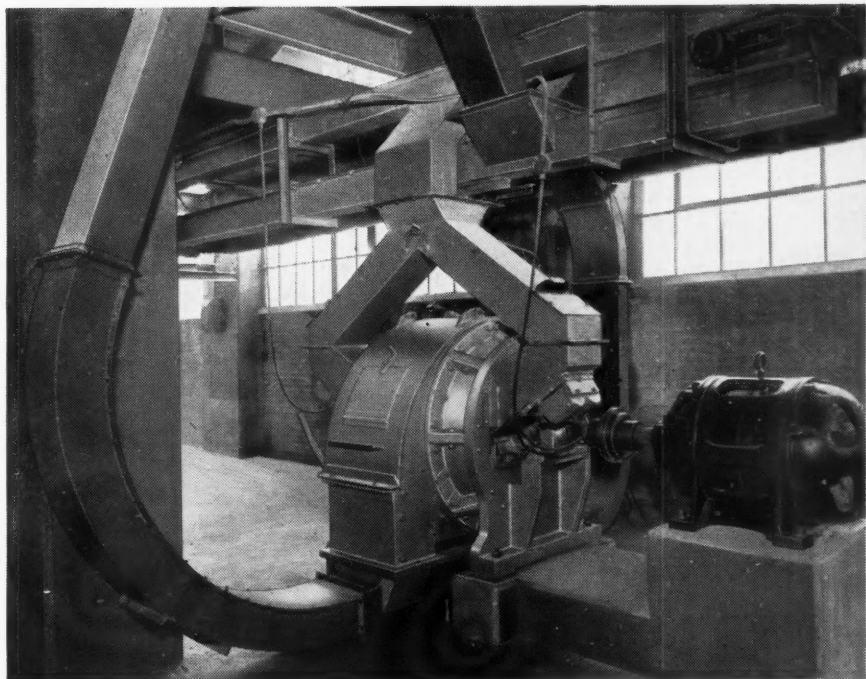
### ILLINOIS

**A. J. Surratt, Illinois agricultural statistician, Springfield:** Over 2 weeks ideal weather to date for soybean harvest. 75-80% combining now completed. Some areas in central and east central Illinois nearing completion. Beans some later west and north of Illinois river. Frost damage confined to about 8% of crop. Beans grading No. 1 and 2. Crop handling fine. Test heavy and quality high. Final yield may be slightly above earlier estimates. Storage facilities are adequate by filling everything in sight including elevators and government steel bins. As a result of record good weather for drying and combining crop moved to elevators faster than boxcars available. Protein concentrate situation satisfactory so far.

**Funk Bros. Seed Co., Bloomington, Ill., for central:** 98% crop harvested by Nov. 1. No frost damage. Beans very excellent quality. 95% grading No. 1 and 2. Moisture range 14-10%. Yields about same as earlier estimates. Storage facilities inadequate. Protein concentrate situation somewhat easier than year ago. Not the local demand of last fall.

**Frank S. Garwood & Sons, Stonington, for south central:** 90% harvested. Drought reduced yield, about 20 bu. average. Yields remarkable considering extreme July and August drought. Beans grading mostly No. 2. Most beans are going to market and with railroad car shortage, local elevators were unable to take soybeans as fast as har-

## ORIGINAL PRATER DUAL SCREEN UNIT AT CENTRAL SOYA RATED HIGH IN EFFICIENCY, TODAY



Central Soya Co., Inc., co-operated with the Prater Pulverizer Company in the development of the Prater Dual Screen Pulverizer for the grinding of soya bean products, both for expeller extracted meal and solvent extracted meal.

The first Prater unit was installed in the Decatur, Indiana, plant of Central Soya and its efficient performance was immediate and outstanding in terms of output, and quality. This efficiency has been continuous and the original unit is generally rated as one of the most efficient in the industry today.

One Dual Feed, Dual Screen Pulverizer in the expeller plant, two Dual Screen Pulverizers in the solvent plant together with auxiliary equipment make up the unit. It is a balanced unit for feeding, grinding and conveying away that still sets the standard for the industry. Other Central Soya Plants are similarly equipped.

Each installation of Prater Processing Equipment for soybean products is individually engineered, but along proven lines by the experienced engineers of Prater Grinding Service. Your inquiry will be given prompt attention.

Address: Industrial Division

## PRATER PULVERIZER COMPANY

1825 South 55th Avenue

Chicago 50, Illinois

ested. Adequate supply of protein concentrates at present time.

**A. E. Staley Mfg. Co., Decatur, for central:** Harvest practically completed. No frost damage. Early beans suffered some loss from dry weather. At present all soybeans grading No. 1 and 2 where care taken in harvesting. Good crop of excellent quality has been harvested. Moisture content low except for some harvested first 10 days of October. Farmers mostly securing full 6c premium. Processors being required to absorb liberal amount of dockage where harvesting methods poor. Storage facilities adequate except where farmers press larger part of crop on market at harvest time.

**J. C. Hackleman, University of Illinois, Urbana:** In most areas, quality of crop seems excellent. In many late planted areas frost damage was anticipated, but because farmers used Richland and other early maturing varieties and because of unusually favorable fall, very few off-grade beans being harvested. Crop in general well above av-

erage for quality. Weed content below normal, probably due in part to dry weather during August and additional fact that high percentage of crop was in rows. 85-90% crop harvested by Nov. 1. Severe drought damage in southeastern Illinois. Most beans harvested to date running very low in moisture. Many farmers obtaining 6 to 8 cents premium for quality. Yields obtained from some areas somewhat disappointing; others surprisingly good. Should average close to 20 bu. Storage facilities adequate in most areas. Most farmers in east central Illinois attempting to move entire crop.

**Shellabarger Elev. Co., Pana, for central:** 60% crop harvested. Beans grading No. 2 and better. Storage facilities inadequate.

**Russell S. Davis, Clayton, for west central:** 90% crop harvested. Very little damage by either drought or frost. All beans grading No. 2 except first week's cutting. These a bit high in moisture. Fields drilled solid yielding better than usual. Rowed fields yielding about as

1943. Elevators filled first week of harvest but farm storage sufficient to keep combines running. Concentrate situation all quiet just now. Abundant fall pasture and reduced livestock numbers have eased protein requirements for time being. Mills were courting buyers in September. Three factors: Big acreage, good yield and high price, have made 1944 crop a record producer of cash. Only a war economy can combine these three factors.

#### INDIANA

**Peter J. Lux, State AAA, Indianapolis:** 95% crop harvested. Very little frost damage. Drought damage serious central areas. Beans grading very good. Ideal harvesting conditions help. Yields higher than expected most areas. Southern part of state on late seeded overflow land reported 25-35 bu. per acre. North central area down to 12-18 bu. Storage situation serious many areas due to shortage of grain cars, permits, local storage space and processor help problem. No rain for 3 weeks steps up harvesting but complicates help problem.

**J. B. Edmondson, Clayton, for south central:** 98% harvested. No frost damage. Drought on poorer upland caused serious damage. Moisture running 11-14%. Practically all grading No. 2. Percentage of splits above average but not enough to affect grade. Long dry harvesting weather has been ideal for soybeans and practically all harvested without rains after combines started. Storage a real problem on many farms where car shortage developed.

#### IOWA

**O. N. La Follette, Feed Institute of Iowa, Des Moines:** Nature has been kind to us. Late beans came through in fine shape. Plant growth in general subnormal but heavy podding and excellent filling more than made up for it. 85% crop harvested. 15% frost damage south central Iowa, practically none elsewhere. Yields 10% above earlier estimates. Storage facilities very cramped due to lack of cars in most of state. Beans grading No. 1 and No. 2. Small percentage of frost damage in south central. Tankage, linseed and cottonseed meals very scarce. Strong demand for soybean oil meal.

**Iowa Crop Report:** Correspondents indicate over 43% of acreage of Richland variety, 19% Mukden, 16% Manchua, 12% Illini. Lincoln used on small percentage of acreage, will have favorable yield influence on future acreage.

**Howard L. Roach, Plainfield, for northeast:** 90% crop harvested. 5% frost damage. Yield 10-15% above earlier estimates. Beans grading No. 1. Storage facilities inadequate.

**A. J. Loveland, State AAA, Des Moines:** 90% crop harvested Nov. 1. Negligible frost or drought damage. 95% beans grading 1 and 2. Moisture 8½ to 11%. Yields 115% earlier estimates. Storage facilities adequate. Ample supplies of soybean oil meal. Linseed very scarce.

**Ed O'Connor, Soy Bean Processing Co., Waterloo, for west central:** 75% crop harvested. Very few frost or drought damaged. Most soybeans grading No. 2 yellow with 11% moisture. Heavy dockage on a few. Oil content higher than last year. Storage facilities inadequate. I think farmers should be encouraged to more storage, to buy steel bins as Geo. Strayer advocated 2 years ago.

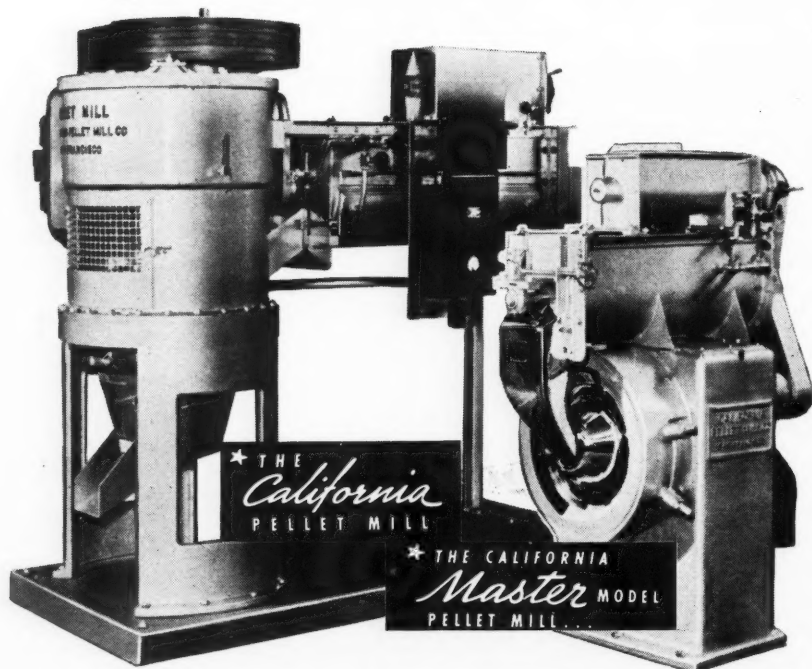
**Walt Flumerfelt, General Mills, Inc., for Belmond area:** 98% crop harvested. Green damage small due to late planting and light frosts. Beans grading good. 11% moisture or better. Yields somewhat improved above 20 bu. per acre average. Farmers have remarked this year's crop the most satisfactory in their entire experience. Protein concentrate situation in this territory satisfactory and well balanced. Processing expected to begin at Belmond in November.

#### KANSAS

**A. G. Thompson, Thompson's Soy Mill, Hiawatha, for northeast:** 80% crop harvested. No frost damage. Beans grading very good. Splits 8-12%. Moisture 10-11%. Yields varied better than last year. Top yield so far 24.87 bu. or \$53.97 per acre. Beans not being held on farm. Our plant short of storage. Protein concentrate situation good. Our mill taking care of local demand.

**Kansas Crop Report:** Soybeans making high yields with harvest being prolonged only by lack of combines.

## For Greatest Value from Protein Meals



★ Pressed or solvent process Soybean, Cottonseed or Linseed Meal—can all be profitably converted into pellet feeds with versatile CALIFORNIA PELLET MILLS. High hourly production, with lowest cost of operation, insures maximum profits. Pellet rations for livestock utilize 100% of available proteins. Elimination of feed losses from weather and spillage, results in a steady heavy demand from growers.

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# PELLET MILLS



## To keep you supplied with bags

WE'RE NOT OVERLOOKING  
A SINGLE BET



THERE are many angles to the job of keeping the soybean industry supplied with bags in these days of shortages. But we're working on all of them. Here's an example:

A shortage of the necessary cotton cloth is, of course, a bottleneck. So, to supplement our usual close cooperation with the cotton textile industry, we took an unusual step—

*An advertisement, appearing in the leading cotton textile newspaper, told the cotton merchants (1) about the amazing growth of the essential soybean industry, (2) the need for bags for soybean products and (3) the types of cotton goods particularly needed.*

The whole object of this unusual undertaking is to create a closer cooperation between the cotton textile and the bag industries... to give you greater assurance of the supply of bags you need.

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BETTER BAGS SINCE 1858



East Pepperell, Mass.

No. 7... of a Series...

## An Open Letter to the Cotton Textile Industry:

☆ ☆ ☆

The United States is now the second largest soybean producing country in the world. In fact, it's probable that we have passed China and now top the list, but recent Chinese figures aren't available.



The total U. S. harvest in 1943 was 200 million bushels, of which nearly 150 million bushels were crushed and processed.

Moreover, the American soybean industry is almost an overnight wonder. Twenty years ago the harvest was less than 5 million bushels and the crushings almost nothing. As recently as ten years ago, the harvest was 14 million bushels, the crushings about 3 million.

The tremendous upswing of the soybean industry was well under way before the war started, but wartime has accelerated it still more. Fortunately, though, this business isn't a "war baby" that will subside when the shooting ends. Expert opinion is that for some years after the war, soybeans will have to answer a considerable part of the world's demand for oils, fats, oilcake and oilmeal. Then, as other food oils come back, increasing industrial usage of soybeans is expected here in America. If the impending industrialization of the "newer" countries,

such as Brazil, Australia and Mexico materializes, the demand for soybeans may be almost limitless.

At any rate, the United States will be a soybean exporting country for years to come, during which time the domestic consumption seems certain to continue its climb.

What does that mean to the cotton textile business and to bag makers? It means both responsibility and opportunity.

It means responsibility because millions of yards of 40" 4.25 yd., 40" 3.75 yd. sheetings, and 40" 3.65 yd. osnaburg have already been used in 1944 by the soybean industry, and millions more will be needed to serve a hungry world and a restored American industrial system.



It means opportunity, because a major part of postwar soybean products may well be handled in bags, as it is now—and that represents a large and profitable volume for the years to come if cotton can get in solidly "on the ground floor."

That's a great combination—responsibility and opportunity—one which, we are sure, your industry and ours will team up to handle in winning style.

## Bemis Bro. Bag Co.

TEXTILE BAG PLANTS IN... Brooklyn • Buffalo • Houston • Indianapolis • Kansas City • Memphis  
Minneapolis • New Orleans • Norfolk • Omaha • St. Louis • San Francisco • Seattle • Wichita

This is a greatly reduced reproduction of the advertisement to the cotton textile industry, telling how cotton goods are required for bags for soybeans and soybean products. Copies will be sent you on request.

#### MICHIGAN

**Floyd B. Himes, Lansing:** 95% harvested. Some drought in southwest. Beans grading good, yield average. Harvest exceptionally good due to good weather conditions for harvest. Moisture content as low as 11% on many samples. Yield in southeastern part of state exceptionally good but dry weather in August reduced yield in southwest materially. In Monroe and Lenawee counties, two largest producing counties in state, yield above normal. Protein concentrate situation much better than last year.

**A. A. Johnson, Michigan State College, E. Lansing:** 70% crop harvested. No appreciable frost damage. Drought damage reduced yield prospects by 20%. Very few soybeans reaching market as yet. Storage facilities adequate.

#### MINNESOTA

**N. C. Belter, Farmer Seed & Nursery Co., Faribault, for central and southern:** 90-95% crop harvested. No frost damage. Beans grading mostly No. 1. Yields much better than early estimates. With fine weather past 3 weeks large acreage of soybeans planted late for hay, now making ripe seed crop. 25-acre field Richlands we had on contract planted June 30 now combined and delivered, of fine dry quality. Minneapolis market embargoed against soybeans.

**W. G. Green, Lakefield, for southwest:** Crop by far best ever grown in this territory. Beans planted end of June intended for hay matured and are making 15-20 bu. Not over 1% crop cut for hay. Average yield about 23 bu. per acre. A few locations blocked by lack of cars.

**John W. Evans, Montevideo, for southwest central:** 75% crop harvested. Beans grading good, 8-10% moisture. Weather more favorable for harvest than 1943. Can expect increased acreage in 1945 as flax acreage declining. I had 5 varieties of beans this year—Richland, Habaro, Pridesoy, Bansei and Kabott. Pridesoy and Habaro best yielders—20-25 bu.

**Rock Island Lines:** Soybeans made remarkable record. Now well established in southern part of state.

#### MISSOURI

**J. Ross Fleetwood, extension specialist, Columbia:** 75-80% crop harvested. Practically no frost damage. Drought damage very small in total but serious in certain small areas. Quality varies by sections but average No. 2. Some areas report best quality ever harvested. Yield higher than earlier estimates. Indications point to highest state yield of record. No serious storage problem unless freight cars become unavailable. Protein concentrate situation still not too good but better than 1943.

**Harry A. Plattner, Malta Bend:** 95% harvested. 5% frost damage. Storage facilities adequate. Volume of protein concentrate 70% of demand.

**Rock Island Lines:** Crop excellent with production highest state has ever had.

#### NEBRASKA

**Marr Soybean Processing Co., Fremont, for east quarter:** 90% harvested, practically no frost or drought damage. 95% grading No. 2. Yields exceed earlier estimates by 10%. Farmers greatly



—Des Moines Register.

Farmers are waiting in line to unload soybeans at the L. O. Wise elevator, at Mitchellville, Iowa. There were similar scenes all over the Midwest in October when soybeans were rushed to market during a long stretch of favorable harvesting weather. One result was the acute shortage of boxcars.

pleased with yields and quality. Many wish had put greater acreage in soybeans instead of late corn. Beans planted up to July 1 well matured and yielding 20 bu. while late corn soft and probably unmarketable.

#### NORTH CAROLINA

**J. A. Rigney, North Carolina State College, Raleigh:** 5% crop harvested. Yields about as earlier estimates. This month we have a little more soybean oil meal and little less cottonseed meal than requested by AAA. They just about balance out.

#### OHIO

**R. D. Lewis and D. F. Beard, Agronomy Dept., Ohio State University, Columbus:** 90% crop harvested. No frost damage. Drought severely cut yields but quality above average. Soybeans grading high, unusually low in moisture. Yields 4-5 bu. below average. Storage facilities mostly adequate. Temporary jams at receiving points due to very favorable weather during October and temporary shortage of cars.

**G. G. McIlroy, Irwin, for west central:** 100% harvested. 40% drought damage. Beans grading best, bring \$2.10 in most cases. Lincolns have demonstrated their superiority as expected. Richlands on best bottom land, where planted in rows and properly cultivated showed they should be considered in Ohio's planting program every year.

**W. G. Weigle, Marsh Foundation**

**Farms, Van Wert, for northwest:** Crop practically 100% harvested. Quality good. Moisture content mostly 11-12%. Yields better than August estimates. Final average about 2 bu. under 1943 yield. Dry September and October weather allowed soybeans to be harvested in excellent condition. Early varieties planted early made weedy fields with low yield, but mid-season varieties planted at normal time avoided weeds and came through with better than expected yields. Many fields made around 30 bu. average. Storage facilities adequate.

#### RHODE ISLAND

**R. S. Shaw, Rhode Island State College, Kingston:** 100% crop harvested. Drought reduced yield to marked degree. Soybeans grown here for hay and silage only. Protein concentrate situation apparently quite satisfactory at present.

#### WISCONSIN

**John P. Dries, Saukville, for southeast:** 100% harvested. No frost damage. Beans grading No. 1 and 2. Yield equal to 1943 or better. One of finest and driest seasons for combining soybeans for some years. Bad part of Wisconsin situation is that due to lack of butter and consistent high red point value for butter the dairy state is once more trying to eat "oleo," it being no fault of their own but a created condition of the present wartime and inefficient administration.

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# WASHINGTON Digest

## Crop Goals for 1945

Another big year for oil crops was in prospect as War Food Administration this month put the finishing touches to its official request to states for 1945 crop acreage.

Next year's crop goals in general are about the same as 1944 planted acreage—a total national crop goal of 363 million acres compared with a 1944 planted acreage of 360 million.

Soybean, cotton, and peanut acreage is

expected to be about the same. But War Food Administration is planning an intense campaign to boost the acreage of flax.

War Food Administration is asking for a 1945 soybean goal of 10,688,000 acres, identical with this year's estimated harvested acreage. The goal is based on estimated requirements of 190 million bushels and an assumed yield of 17.8 bushels an acre.

WFA estimates total soybean oil requirement for the year beginning October 1, 1945 at 1,259,000,000 pounds, requiring a crush of around 140 million bushels. This is about the same amount of soybeans as was crushed from the 1943 crop and considerably more than is expected to be crushed from this year's crop. WFA is asking farmers to market more of next year's crop than in previous years, pointing to the need for more soybean oil, the superiority of soybean oil meal over ground soybeans as feed, and the financial advantage of selling the beans.

Recommended state goals in acres: Ohio, 3,000,000; Indiana, 1,500,000; Illinois, 3,332,000; Michigan, 100,000; Wisconsin, 70,000; Minnesota, 200,000; Iowa, 2,000,000; Missouri, 650,000; South Dakota, 2,000; Nebraska, 50,000; New York, 20,000; New Jersey, 20,000; Pennsylvania, 50,000; Delaware, 50,000; Maryland, 40,000; Virginia, 120,000; West Virginia, 3,000; North Carolina, 220,000; Kentucky, 80,000; Tennessee, 80,000; South Carolina, 15,000; Georgia, 20,000; Alabama, 40,000; Mississippi, 150,000; Arkansas, 250,000; Louisiana, 50,000; Oklahoma, 10,000; Texas, 20,000; North Dakota, 10,000; Kansas, 218,000.

Probabilities are that the price support on soybeans will remain the same at \$2.04 a bushel.

Cotton acreage will be in the neighborhood of 20,900,000 acres, with the price support boosted to 95 percent of parity by an amendment to the Surplus War Property Act.

WFA wants a high peanut acreage, but the realists in the farm administration doubt that more than 3,500,000 acres, a slight increase over this year's acreage for harvest, will be planted in 1945.

Flax is an administration problem child in the oil crop family. After reaching a peak of 5,867,000 planted acres in 1943, flax producers this year fell short of the 1944 goal by more than 2 and a half million acres.

## Oilseeds for UNRRA

Oilseeds and oilcake will be important items on the United Nations Relief and Rehabilitation Administration's buying schedules for European relief and restoration of its livestock industry.

Just how much U. S. oilseed and cake will be available for shipment abroad, in view of high domestic needs, is not yet

## By PORTER M. HEDGE

Washington Correspondent for  
The Soybean Digest

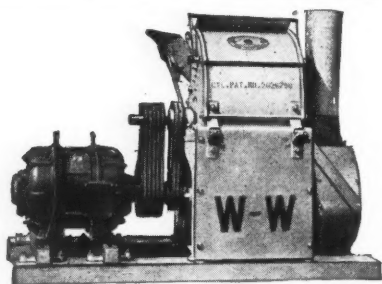
known, but the foreign demand is high, and this accounts in part for the continued high acreage goals for oil crops in 1945.

The agricultural sub-committee of UNRRA's Council for Europe said in a recent report on requirements "the highest importance is attached to imports of oilcake for the production of milk . . ."

The report added that "it is particularly to be hoped that relief shipments of edible oils will be made in the form of oilseeds . . . in order that the by-products may be available for conversion into milk, and to a lesser degree meat."

The importance of vegetable oils and protein feeds in the European relief picture is further emphasized by Roy F. Hendrickson, UNRRA's deputy director-general. In a recent talk to state land grant college officials in Chicago Hendrickson said that "Belgium is anxious to restore her dairy industry; to import again—particularly oil seeds; to provide edible oils for margarine, for protein feeds for her livestock."

During the 5 pre-war years (1933-'37), continental Europe imported an annual av-



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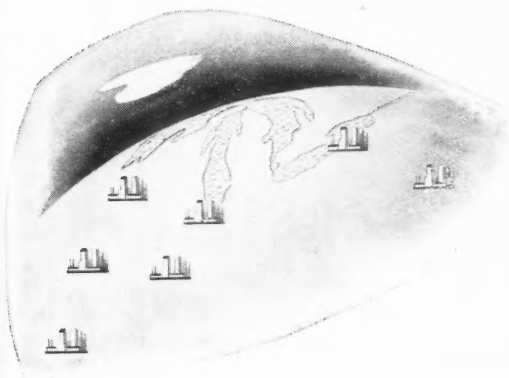
Administration Offices—Buffalo, 5, New York

### Sales Offices:

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Los Angeles, Cal.

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Buffalo, N. Y., Edgewater, N. J., Chicago, Ill., Los Angeles, Cal.,  
Des Moines, Ia., Decatur, Ill., Minneapolis, Minn.



erage of about 1,800,000 tons of fats and oils for food, and 4½ million tons of oilcake and equivalent of oilseeds.

## Bugaboo Surplus

The problem of postwar surpluses when lend-lease shipments end has hobbled to the surface again in Washington with the return of Lt. Col. Ralph Olmstead, supply and price deputy for War Food Administration, who has spent the last 2 months investigating food requirements in England, France and Russia.

Olmstead looks for European demand for vegetable and animal proteins, vegetable oils, fats, dairy products, and sugar to run high for at least another 3 years.

He emphasizes that there is a hunger

demand in Europe for enormous supplies of food, both now and for some time after the war. But he is equally emphatic that there is not a corresponding dollar-price market demand, and that the volume of postwar U. S. exports will depend to a great extent upon this country's willingness to face up to the problems of world trade.

Olmstead, in a talk to the press shortly after his return, took pains to point out that his overseas mission was to investigate food requirements, not to dope out postwar U. S. trade policy.

However, he says there is no escaping the fact that European countries don't have the dollars to buy American products, and that they aren't likely to buy in a comparatively high American market when cheaper goods can be found elsewhere.

The food official ruled out postwar dumping as a policy that would lead to retaliation. He said it was a question how long the American public would continue to support a "give-away" food policy after the war.

His conclusion: That in order to sell its products abroad after the war, the U. S. will have to meet world prices—and take goods in exchange.

State trading, channeled through governments rather than individual concerns, is looked upon here as more and more inevitable for some time after the war.

Olmstead said Russia is now working in a food "void"—could use 10 times the amount of food she is now getting if shipping were available. As an indication of the need for fats and oils in Russia, Olmstead said the yearly fat ration there was 10 pounds per person.

The WFA deputy figures it will take Russia about 3 years to become self-sufficient again. He thinks England will continue to import large quantities of food after the war, but has its dominions to buy from. The size and duration of other European food demand is problematical. But Olmstead says price and dollar exchange will rule all buying.

## The Boxcar Shortage

Washington officials can see no early relief in sight for farmers and shippers caught in the boxcar jam that's now hampering the movement of soybeans, grain and other farm products.

Office of Defense Transportation says that there's a big movement of war goods, grain movement is still heavy, and the situation is further complicated by a shortage of loading and unloading labor, which helps to tie up cars at both shipping and destination points.

"We are aware of the situation confronting the soybean shippers," ODT told *The Digest*, "and are endeavoring to get sufficient cars, into Iowa and Illinois particularly, to handle the crop. The railroads are working with us. We believe enough cars will be provided, but there will be some delay."

A number of officials in War Food Administration dealing daily with the prob-

lems of transporting non-war goods expect the boxcar situation to become even tighter this winter.

## No Soy Flour Limitation

A recent revision of War Food Order No. 1 now permits unlimited use of milk solids in bread making, permitting bakers to return to their prewar use of six parts milk solids to 100 parts flour, compared with a former limit of four parts milk solids.

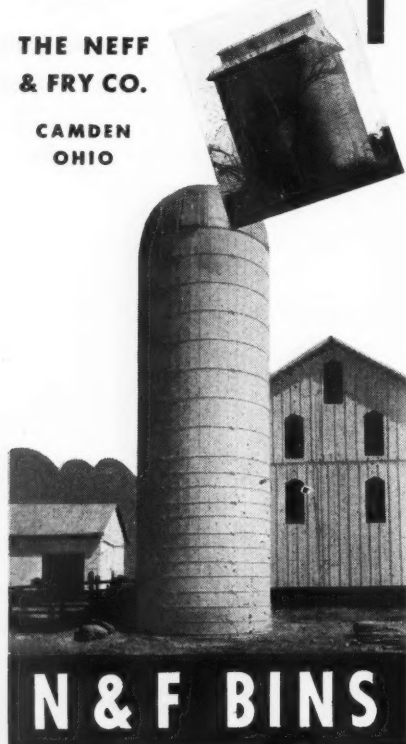
WFA's Office of Distribution, pointing out there is no limitation on the use of soy flour in bread, claims there was no intent in the revised order to discriminate against soya products.

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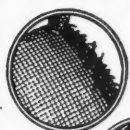
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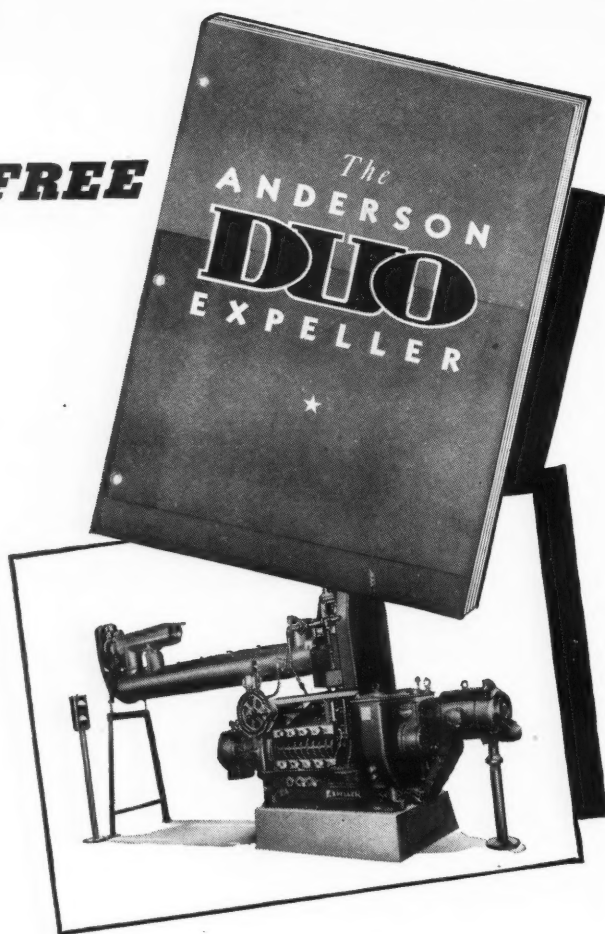
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## IN THE MARKETS

### SOYBEAN INSPECTIONS 1943-44 SEASON HIGHEST OF RECORD

Inspected receipts of soybeans during the crop year 1943-44 totaled 83,503 cars, the largest on record and an increase of about 12 percent over 74,443 cars inspected the preceding year, according to inspectors' reports to the Grain Products Branch of the War Food Administration. The total number of carload receipts inspected during the crop year 1941-42 was 45,152 cars.

The quality of the 1943 soybean crop was good, 86 percent grading No. 2 or better compared with 31 percent and 34 percent for the 1942 and 1941 crops, respectively. Only 1 percent fell in Sample grade as against 39 percent the year before. Ninety-nine percent classed as Yellow compared with 97 percent for the two preceding years.

September, 1944, inspections amounted to 1,698 cars. Inspections for the same month in 1943 and 1942 were 1,188 and 538 cars, respectively. Ninety-three percent graded No. 2 or better compared with 27 percent the season before.

Inspections of soybeans in September included the equivalent of about 10 cars inspected as truck lot receipts.

● **SEPTEMBER FOOD PURCHASES.** WFA's report of agricultural commodities purchased during September for lend-lease, territorial emergency, Red Cross and other purposes,

Commodity (Pounds)	September	Jan. 1, thru Sept. 30, 1944
Margarine	291,192	71,183,075
Shortening	1,155,000	4,499,872
Peanut Oil	2,259	2,259
Linseed Oil, Edible		211,984,753
Soybean Oil	6,941,957	99,890,265
Sunflowerseed Oil		1,106,405
Castor Oil		336,000
Tomato soya dehydrated soup		1,792,000
Carrot soya dehydrated soup	134,400	134,400
Soybean Oil Meal	720,000	10,380,000
Soybeans		10,000,000
Soy flour	2,000,000	3,000,000

● **SOYBEANS FOR BEANS.** October 1 report of the U. S. crop reporting board.

State	Yield per acre			Production		
	Average 1933-42	1943	Indicated 1944	Average 1933-42	1943	Indicated 1944
	Bushels			Thousand bushels		
Ohio	18.8	21.0	16.0	7,195	27,993	21,056
Indiana	16.8	18.5	16.0	9,479	27,084	24,512
Illinois	19.6	20.5	20.0	32,508	70,602	68,000
Michigan	14.0	15.5	13.5	687	1,596	1,350
Minnesota	14.5	13.5	14.5	1/ 734	3,321	3,350
Iowa	17.6	19.5	19.5	10,093	39,332	39,332
Missouri	10.4	15.5	16.0	1,678	8,696	10,672
North Carolina	11.4	9.0	10.0	1,793	2,313	1,900
Mississippi	9.3	12.0	12.0	566	1,704	1,368
Arkansas	12.0	9.5	15.5	905	2,536	3,720
10 prin. States	18.3	18.8	17.9	65,565	185,177	175,260
Other States	11.9	10.7	12.2	3,206	10,585	10,710
U. S.	17.1	18.1	17.4	68,771	195,762	185,970

1/ Short-time average.

● **OILFEEDS.** Oilfeeds situation remains firm in Chicago and surrounding territory. Soybean oil meal production is reported to be heavy and the demand for November-December delivery is excellent. However, some buyers are apparently not anxious to contract for large tonnages beyond the first of the year, while others have contracted well into next year. Linseed oil meal is in excellent request with the production far below the trade's requirements, as output is reported only about 30 percent of capacity with the local crushers. Some of the large crushers are curtailing their production in order to spread deliveries over as long a period as possible. Other plants have closed down preparatory to resuming operations with the crushing of soybeans.

**SOYBEAN DIGEST**



● **STANDARD SHORTENING SHIPMENTS.** By members of Institute of Shortening Mfrs., Inc.

Week ending Oct. 7, lbs.	7,302,331
Week ending Oct. 14	8,744,646
Week ending Oct. 21	9,324,187
Week ending Oct. 28	10,703,630
Week ending Nov. 4	8,873,788

● Weekly standard shortening shipments as reported by ten members to institute of Shortening Manufacturers (in million pounds).

	1940	1941	1942	1943	1944
First Quarter	94.6	127.3	105.8	142.4	81.4
Second Quarter	99.9	140.8	82.7	130.8	83.4
Third Quarter	111.3	107.7	156.7	117.6	108.6
Fourth Quarter	115.2	92.3	132.6	119.7	
Totals	421.0	468.1	477.8	510.5	
First 9 months (million lbs.)	305.8	375.8	345.2	390.8	273.4

● **STOCKS OF OLD SOYBEANS** stored on farms on October 1 amounted to 4,840,000 bushels or 2.5 percent of the 1943 crop. On October 1, 1943 farm storage was 4,561,000 bushels or about 2.4 percent of the 1942 crop. Total United States farm stocks on October 1 were not estimated prior to 1943. Disappearance of farm stocks from July 1 to October 1 this year was only 6,178,000 bushels compared with 9,183,000 bushels for the same period in 1943. However, movement from farms was unusually heavy for the first quarter of the 1943 crop year—October 1, 1943 to January 1, 1944.

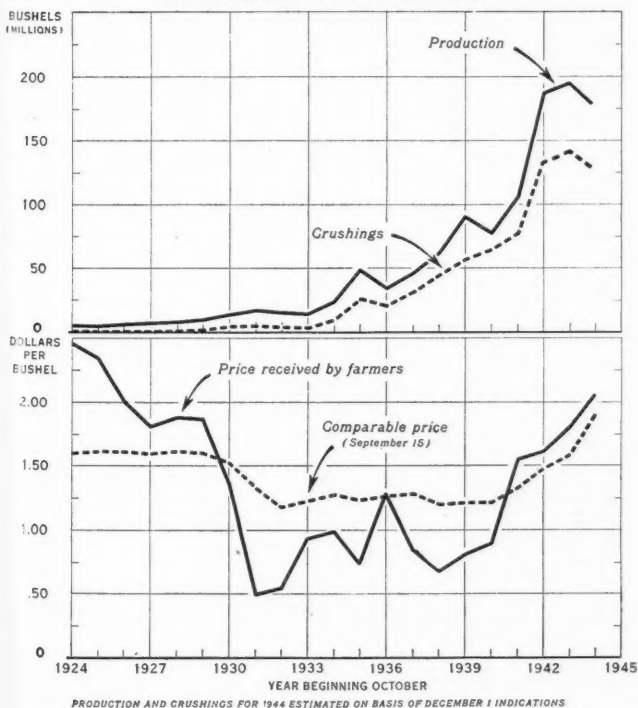
● **SOYBEANS.** The demand for soybeans at the Chicago market has considerably slackened due to the fact that most processors are out of the market until December 1. There were no carlots of soybeans offered on the spot market during the week of November 11.

## GOVERNMENT ORDERS

● **MEAL AND SOYBEAN ORDERS TERMINATED:** The War Food Administration has terminated War Food Orders No. 26 (Oilseed Meal) and 27 (Soybeans), as these orders are no longer needed. Termination date was October 11.

War Food Order No. 26, issued July 31, 1943, required processors to set aside the remaining supply of oilseed meal produced from the 1942 crop of soybeans, cottonseed, and peanuts for purchase by the Commodity Credit Corporation. War Food Order No. 27, issued on September 15, 1943, restricted the purchase and use of soybeans of the 1943 crop so as to promote the orderly marketing of this commodity.

SOYBEANS HARVESTED FOR BEANS: PRODUCTION, CRUSHINGS, AND PRICE, UNITED STATES, 1924-44



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